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"NEC TENUI PENNA"

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"NEC TENUI PENNÀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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Editorial

LICENSE TO DO GOOD.

No philanthropic body does more charity than the medical fraternity. In New York City practically 33 per cent. of the entire practice is charity, and from a business point of view the doctors in that city alone give away \$5,750,000 worth of professional goods every year.

Now, it is plainly the duty of the city government—certainly not the doctors—to care for its sick, and the courts have so held. The community evades its responsibility by trusting that the humanitarian feeling of medical men will compel them to do its work for nothing. It is simply unloading its charitable duty on the medical profession because the doctors have so long permitted it.

Although the physician is taxed like other citizens, commensurately with his means, for the care of the city's sick poor, and although he uncomplainingly dispenses medical charity—doing city work without remuneration—he is, in addition, compelled to pay annually into the Sinking Fund of

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the city a license to administer comfort, to prolong life, and to promote the vigor and efficiency of the community.

Our risibles are physiologically affected when we recall the adroit way Tom Sawyer evaded the whitewashing of Aunt Polly's fence by selling the privileges to his friends. How much are we pur-blind doctors, like Ben Rogot's who gave his apple, Billy Fisher his kite and Johnny Miller his dead rat on a string. It would be to laugh—sans intermission, were it not at our own expense.

From an economic standpoint, who does more for the State than the doctor, converting non-producers into producers, when he restores health? Who better conserves the State's most valued resources than he who conserves human life? Who more conscientiously safe-guards the public welfare than the doctor who has preached the doctrine of preventive medicine, the effect of which he fully realizes, will reduce his own professional profits?

Have the doctors been paid for the time spent in filing their reports of births and deaths, by which the State alone is benefited? And have they not been subject to a fine if they were remiss? There is no law that can justly compel one to render State's service without compensation. In this connection a contemporary discussing "The Legal Status of Medicine in its Relation to Government and Society," pertinently writes, "Is it under legal or moral obligation to either one or the other to render gratuitous service? To answer this question, we ask, what has the government or society done for the advancement of medical science or medical education that would justify such self-sacrificing returns on the part of the medical profession? A soldier educated at the expense of the government might be expected to render some gratuitous service to the government in return for an education obtained at its expense, but he is paid for his services, lauded as a hero when he performs simply his duty as a soldier, and is enshrined as a martyr if he dies on the battlefield. Whether he lives or dies, the government additionally rewards his services with a pension. Nothing of this kind is done for the physician whose gratuitous services have been appropriated by the government and society. When he dies in the line of duty while performing these gratuitous services, he is buried by his

friends, or possibly consigned to a pauper's grave and forgotten. This sad ending of a medical career is not so much the fault of the government or the people as it is of the medical profession which permits it. If individuals in the profession try to abate the evils of charity practice and make an effort to accumulate something for those dependent upon them, the hue and cry of commercialism comes up from the profession, and they are often stigmatized as scheming tricksters or political doctors. No other calling has a charity department connected with its business. People of every other occupation believe that the burdens of the poor should be lightened by the munificence of government or organized charity. The profession of medicine alone repudiates this theory."

It is time that the municipal authorities appreciated the worth of the work done by the Silent Profession and ceased to levy tribute from the promoters of the Commonwealth.

Original Articles

A NEW OPERATIVE TECHNIQUE FOR THE CURE OF VARICOCELE OF THE SPERMATIC CORD.

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From the standpoint of scientific accuracy and completeness, the literature that has been published relative to varicocele is notoriously unsatisfactory. Despite frequency of this pathological and clinical condition, our knowledge concerning its significance, its etiology, its pathology, and the results of its treatment by operative measures is honeycombed with deficiencies. The purpose of this article is to stimulate and to facilitate the efforts of those that might feel impelled to elucidate some of the many as-yet-unsolved points of this definite anatomical and clinical entity.

At the Cook County Hospital from January, 1906, to July 1, 1910, inclusive, 155 cases of varicocele were subjected to

operation. At least as many other patients were refused operative relief. The operations performed were venous resection, scrotal resection or both combined. The youngest patient operated upon was eleven years old, the oldest fifty-seven years. The ages of the patients are shown in the following table:

11-20 years—36 patients.

21-30 years—77 patients.

31-40 years—18 patients.

41-50 years—10 patients.

51-60 years— 3 patients.

Age not ascertained in eleven cases.

In four cases the affection was right-sided; in ten bilateral; and left-sided in 131 cases; in 10 cases the side affected is not recorded. Six cases were associated with an inguinal hernia of the same side, and four with hemorrhoids. In a few cases, the presence of varicose veins of the leg is noted. Though the institution admits individuals of all races, not one of the patients operated upon was colored.

Quain (1) defines varicocele as follows: "A dilated, elongated and tortuous condition of the veins of the spermatic cord, due either to increased pressure within the vessels or to diminished resistance in the walls of the vessels and in the surrounding structures." The pathological dilation, lengthening, and tortuosity are limited almost always to the spermatic vein and its branches. Exceptionally, the cremasteric and deferential veins and their branches participate in the process. The veins of the scrotum may also show varicose dilatations. The spermatic vein originates at the posterior border of the testis as a thick closely woven network and forms the pampiniform plexus. This plexus consists of from eight to ten veins, most of which lie anterior to the vas deferens; it passes upward, enters into the formation of the spermatic cord, courses through the inguinal canal and finally forms a single trunk in the abdominal cavity. In varicocele the venous lengthening, tortuosity and dilatation are permanent and are associated with histo-anatomical changes in the vessel walls. Temporary dilatation, such as compression of short duration can determine,

and which disappears completely after the removal of the compressing agent is not varicocele.

Varicocele may be unilateral or bilateral (2), may be primary or secondary, that is idiopathic or symptomatic, may be complicated by the co-existence of other local pathological states, hernia, vaginal hydrocele, tumors of spermatic cord, etc., may be associated with a fully developed or with an undeveloped testicle (3). In Gould's cases (3), the testicles were small but not wasted. The following varieties are recognized:

- a. Simple dilatation and varicosity of the veins with or without slight scrotal relaxation.
- b. Orchidoptosis.
- c. Varicosities and orchidoptosis.

All authors state that the left side only is involved in by far the larger number of cases (80 per cent. to 90 per cent.), Chassaignac, Dardignac (4, 5), 92 per cent. Istomin (5a) Clinical observation amply confirms this statement.

Statistics are not in accord as to the frequency of the condition. Senn (2), in 9,815 recruits examined, found varicocele present 2,078 times, that is in 21.17 per cent. In fifteen of these cases, the affection occurred on the right side; in seventeen, it was bilateral; in the remaining cases, the left spermatic cord was the seat of trouble. French military commissions report varicocele as occurring in 6.4 per cent. of all recruits. No age is exempt. Though it occurs at all ages, it is rare both in the young (6a and b) and in the old. Gould (3) had a case of varicocele occurring in a boy, four years old, and another case in a boy eleven years old. Its period of greatest incidence is between the ages of twenty and forty. Laudouzy (3) gives the following table:

In thirteen cases the varicocele was first noted between nine and fifteen years.

In twenty-nine cases the varicocele was first noted between fifteen and twenty-five years.

In three cases the varicocele was first noted between twenty-five and thirty-five years.

Curling (7) gives the following statistics:

Two cases were between ten and twenty-five years when they came under medical notice.

Twenty-six cases were between fifteen and twenty-five years when they came under medical notice.

Fourteen cases were between twenty-five and thirty-five years when they came under medical notice.

Five cases were between thirty-five and forty-five years when they came under medical notice.

Three cases were between forty-five and sixty-five years when they came under medical notice.

No race is immune. It has, however, been observed that negroes are practically free from varicocele. In them the scrotum is close fitting and less lax than in Caucasians.

An intelligent understanding of the condition and of its treatment is aided by a correct knowledge of the regional anatomy of the spermatic cord and of the scrotum.

In idiopathic varicocele, the patients frequently complain of a sense of weight and of a dragging pain in the scrotum and groin, relieved on lying down and increased by severe bodily strain. One must not forget that an entire absence of subjective symptoms is not uncommon and that there are varicoceles of large size which produce no subjective symptoms whatever, no pain, no sexual debility, no wasting of the testicle. In idiopathic varicocele, the veins collapse when the patients assume the horizontal posture. In all types of varicocele, actual or imaginary, the morbid tendencies are frequently aggravated by quack advertisements, commercial medical literature and the artful suggestions of charlatans (4).

The symptomatic type of varicocele is almost invariably painless. One of its characteristics is that the veins remain distended when the patient assumes the reclining posture.

The secondary or symptomatic type of varicocele may be caused:

1. By neoplasms of the kidney. In sixteen cases of renal tumors, six had determined a symptomatic varicocele (8). Reclus' (9) patient, an elderly man, who presented a right-sided varicocele consecutive to a renal cancer.

2. By occlusion of the left renal or of either spermatic vein by a neoplastic growth. In Hochenegg's case (8), the symptomatic varicocele was due to the invasion and obstruction of the left renal vein by the renal growth.

3. By compression of the spermatic vein exerted by cancerous lymphatic glands or by renal tumors, by enlarged retroperitoneal glands. Delbet's patient (10) was fifty-seven years of age and complained of a well-marked but painless right-sided varicocele, which had developed without apparent appreciable cause and had increased progressively in size. The autopsy showed that a cancerous juxta-pancreatic lymphatic gland had by compressing the spermatic vein determined the venous ectasia.

4. By kinking of the spermatic vein due to inflammatory adhesions, to the weight of tumors, to prolapse of the left kidney, etc.

Among the many causes, all more or less inadequate, advanced as predisposing, contributory or exciting factors to the production of idiopathic varicocele, the following are the most frequently cited:

1. The great length, the vertical course, the dependent position and the great tortuosity and the frequent anastomosis of the spermatic veins.

2. The abnormal thinness of the vein walls.

3. The almost-complete absence of support afforded the spermatic veins by the loose tissue which surrounds them.

4. The pressure exerted by the contraction of the abdominal muscles upon the spermatic veins as they course through the inguinal canal, as by straining at stool, etc. (1, 2, 3, 4, 5) are anatomical conditions common to all healthy men.

5. The plexiform arrangement of the spermatic veins in the scrotum and their termination in one small vein in the abdomen. The radicles of the spermatic veins emerge from the back of the testis, receive tributaries from the epididymis, unite and form a convoluted plexus called the spermatic plexus (plexus pampiniformis). Combined lumen of the veins is large as compared with that of artery (spermatic artery), so that the vis a tergo is reduced to a minimum (15c).

6. Aplasia (11, 12) predominating in the veins and valves thereof. "Varicocele is a congenital aplasia of the veins of the spermatic cord." (Escat) "Varicocele is a genito-urinal fibromuscular aplasia, chiefly affecting the left side." (Longuet).

"Varicocele consists in a loss of tone of all the genito-scrotal tissues."

7. The absence in the diseased spermatic veins of efficient valves. The minor frequency of right varicocele is partly due to the almost constant presence of an efficient valve at the point where the right spermatic vein debouches in the inferior vena cava. "These veins are provided with valves, but occasionally the valve at the orifice of the left spermatic artery is absent." (Cunningham's Anatomy.)

8. Anything which tends to obstruct the free return of blood through the spermatic veins from the testis as, for instance, fecal masses in the caecum or in the sigmoid colon, pressing upon the spermatic veins.

9. Undue activity of the sexual apparatus. In many individuals, sexual fatigue is accompanied by a considerable relaxation of the scrotal tissues. In warm climates, lengthening and relaxation of scrotum is an almost invariable accompaniment of varicocele (14, 25).

10. Occupations exposing the scrotum to frequent slight traumatism (horseback riding), and also such as necessitate continuous and prolonged standing. Varicocele is not uncommonly met in those who are long in the saddle and also in those who ride the bicycle to excess.

11. Heredity, traumatism, previous inflammatory states and other indefinite factors.

The reasons advanced to explain the great preponderous of left-sided varicocele are now convincing:

1. Inferior muscular development of the left side of the body from predominant use of the right.

2. Of the two spermatic veins, the left vein is the longer. Schultz says that the right spermatic vein's outlet is $1\frac{1}{2}$ inches lower than the left. The difference in length of the two veins is slight and does not exceed that between the two iliac veins, which latter has not led to a similar disproportion in the occurrence of varicosities in the veins of the lower extremities (Gould 3).

3. The left spermatic vein is exposed to being compressed by a sigmoid colon loaded with fecal matter. Constipation is not more frequent in those that have varicocele than in other

individuals of the same age and class. Constipation is frequent in old men; varicocele is rare in them. Those that look upon constipation as a cause of varicocele find it difficult to explain why the veins collapse instead of becoming turgid upon the assumption of the patient of the recumbent posture.

4. Rectangular implantation of the left spermatic vein into the left renal vein.

Varicocele (15a) of the broad ligament, a condition in the female that bears some analogy to varicocele in the male, is also of more frequent occurrence on the left side. Kanavel and Miller say: "It is to be noted that of twelve cases of primary varicocele of the broad ligament, six occurred upon the left side alone, in six it was bilateral, in no case occurring upon the right side alone" (15b). Authors have sought to explain the greater frequency of left-sided varicocele of the broad ligament by the same reasons that are advanced to account for the more frequent occurrence of left-sided varicocele of the spermatic cord (15c).

In the differential diagnosis of varicocele, one only need to consider hernia, lipoma, hydrocele communicans. Varicocele may be confounded with an epiplocele because both have a cord-like arrangement.

Treatment If every case of varicocele is operated on indiscriminately, a fair percentage of patients will suffer permanent bodily harm, locally in the testis and generally in body and mind (13a and b). It is a matter of general knowledge that many varicocele operations are performed in the absence of positive indications. Charlatans have found it very lucrative to needlessly operate cases of imaginary varicocele and cases of very slight dilatation of the branches of the spermatic veins. One cannot too strongly condemn the subjecting of a patient to a needless operation.

In the treatment of varicocele operative surgery has a legitimate and well-defined sphere of action. In this, as well as in other surgical conditions, we consider it important that operative indications and contra-indications be formulated with precision.

We are of the opinion that operative intervention is absolutely contra-indicated and not permissible:

1. In pseudo-varicocele. When the veins of the spermatic cord are not the seat of lesions demonstrable to inspection or to palpation, a varicocele is not present. The surgeon must not accede to the importunities, to the requests of hypochondriacs and of neurasthenies, who insist upon being operated upon for an imaginary varicocele. Many of these individuals are hardened, pessimistic and dangerous neuropaths (16). Owing to the fact that in these cases there is not any vein lesion present, surgical intervention does not benefit the existent orchialgia, testicular neuralgia, or other symptoms of which these patients complain.

2. In symptomatic varicocele. The cure of a symptomatic varicocele is dependent almost entirely upon the surgeon's ability to remove the causative factor.

3. In varicocele occurring in individuals suffering from constitutional states that forbid the performance of operations of election; even if such operations of choice do not entail risks. The various operations performed for the relief of varicocele are without danger to life. Among unfavorable constitutional states, the most important are malignant disease, diabetes mellitus, advanced renal, cardiac and hepatic affections, etc.

Indications for Operation. Relief by operative means is indicated in all cases of varicocele:

1. In which there co-exists an inguinal hernia of the same side, be the hernia complete or incomplete, reducible or irreducible, an enterocele, an epiplocele, an entero-epiplocele. The pressure of an ill-fitting truss cannot only aggravate an existing varicocele, but can also lead to the development of this pathological state. If a hernia co-exists with a varicocele the curative operation for the varicocele is to be supplemented at the same sitting by one for the radical cure of the hernia. Carta (17a), in 150 cases of varicocele, found six co-existing with a hernia of the same side. In twenty-one patients, operated upon for varicocele, Narath (17b) found inguinal hernial sacs in five. In one patient, both, the hernia and the varicocele, were bilateral.

2. In which there co-exists on the same side a hydrocele (18) of the tunica vaginalis testis. Both conditions, varicocele and hydrocele, should be remedied at one and the same operative sitting. For the varicocele, the operation described at

the close of the article should be performed. The hydrocele is best met by incising longitudinally the tunica vaginalis and everting it around the epididymis and serotal portion of the cord. The upper margin of the everted tunica vaginalis is then sewed to the subpubic fibrous tissue. Carta (17a), in 150 cases of varicocele, found in twenty cases a co-existing hydrocele of the tunica vaginalis testis of the same side.

3. In which there is present on the same side an encysted hydrocele of the cord. The same incision gives access to both pathological states.

4. Associated with or dependent upon the presence of a tumor of the spermatic cord (19). In these cases, the surgeon is confronted by a double indication, the removal of the neoplasm and the correction of the varicocele.

5. Having a history of recurrent attacks of phlebitis and of thrombosis (Burghard 20a, Longuet 20b). Two of Narath's cases presented a lipoma of the cord. Here, the operation is preferably performed during a quiescent period; at other times, a troublesome spreading thrombosis may originate at the seat of ligation.

6. In which there has been an accidental or spontaneous rupture of one or more veins of the affected spermatic cord. The rarity of rupture is partly explained by the mobility of the spermatic cord, and by the elasticity of its various tunics, which together enable the veins to easily shift away from insults. Patel (21) reports a case of co-existing hydrocele and varicocele of the same side, in which there occurred an apparently spontaneous rupture of one or of several veins of the varicocele. This rupture converted the hydrocele into a hydro-hematocoele. Patel exposed and ligated the bleeding points, removed the extravasated blood, and subjected the hydrocele or hydro-hematocoele to appropriate operative treatment. Rupture of a varicocele may prove fatal. A case of this nature is reported in the *Lancet* (22). The patient had a left-sided varicocele; as a consequence of a blow received on the left scrotum, the latter swelled to the size of a child's head. Incision of the scrotal swelling was followed by discharge of fresh blood, which continued to escape until the patient suddenly died. It was demonstrated that the uncontrolled and fatal

hemorrhage resulted from traumatic rupture of a varicose vein of the spermatic cord.

7. That show more than a moderate degree of venous dilatation and tortuosity, because in these cases the functional integrity of the testis is either seriously menaced or involved. It is desirable to rid the patient of the disagreeable consciousness of the continual presence of a testicular tumor (Lydston 29). In mild cases without symptoms, operative treatment is not required. The patient's mental annoyance and exaggerated apprehensions must be allayed by sensible advice (Bennett). In a case reported by Loumeau (23), the patient was eighteen years of age and presented for treatment a voluminous and painful varicocele extending downward as low as the middle of the thigh. Berger (23a), in one patient resected a spermatic vein the calibre of which equaled that of the little finger.

8. That are productive of neuralgic pain in the testis, of pain radiating along the spermatic cord and down the thigh, associated or not with pain in the back and a characteristic dragging sensation. That is, in all types of painful varicocele, the painfulness of which is not controlled by the wearing of a well-fitting suspensory and the employment of judicious non-operative therapeutic measures. No constant relation exists between the size of a varicocele and the degree of pain and other subjective symptoms present. Not uncommonly, the patient is more irritable than the varicocele is painful. Varicocele pain recognizes various causes: Compression of nerve-filaments by varicose veins; neuritis, due to ectasia of the vaso-nerverum; atrophy of the gland; the patient's psychical state, etc.

9. That are associated with serious nervous disturbances, such as neurasthenia, psychic disorders, tendency to suicide, etc. (25). These patients harassed by the presence of their varicocele, often develop a distressingly hypochondriacal state of mind. The operation does not make the neurasthenia worse, but often improves the general state of the patient.

10. Showing a steady increase in size and progression of symptoms in spite of appropriate non-operative treatment; avoidance of constipation, cold ablutions of the parts, sexual hygiene, the wearing of a well-fitting suspensory, etc.

11. That show calcareous changes in the vessel-walls. Dardignac (5), and others report cases of varicocele in which the markedly dilated veins were the seat of calcareous incrustations.

12. When the patient wishes to enter some public service, civil, police, military, or naval, and the varicocele is the only existent physical disqualification.

13. If disease of the opposite testicle be present: hydrocele, tuberculous epididymitis, cystic disease of the testis, etc. In the presence of disease of the opposite testis, it is important to preserve the functional and anatomical integrity of the unaffected testis. LeFort (26) presented to the Societe Centrale de Medecine du Nord a patient afflicted with a left-sided varicocele extending as far as the lower third of the thigh. The right testicle extended lower than the left, was hypertrophied and the seat of a hydrocele.

14. If the opposite testis is lost.

15. In which the nutrition of the testis is threatened. A varicocele can impair the nutrition of the testis in various ways: The process may extend to the intra-testicular veins; by its volume it may injuriously compress the organ; the passive hyperemia of the gland may prove deleterious to latter's nutrition, etc. "When highly or rapidly developed, the dilatations of the veins interferes so much with the nutrition of the gland as to occasion wasting." Curling (7).

16. Associated with evident scrotal changes, marked pendulousness, profuse scrotal sweating and obstinate dermic lesions of the scrotum.

17. When the condition is bilateral.

It is our opinion that all the various subcutaneous operations for varicocele should be completely discarded. If a varicocele be of such a degree or nature as to necessitate operative relief, only such methods of treatment should be resorted to as are appropriate. The patient's objections to an open operation should be surmounted or disregarded. One of the most manifest tendencies of modern surgery is to abandon all subcutaneous methods of operating, and among the subcutaneous methods of treatment that have fallen into almost complete disuse can be mentioned the injection treatment of

goiter (27), the injection treatment of hernia, of vaginal hydrocele, Bottini's operation for prostatic hypertrophy, subcutaneous suturing of fractured patellae (28), etc. It is incontrovertible that the less an operator knows of anatomy and of surgical operative technique, the more reluctant he is to abandon subcutaneous methods of operating (29).

Advantages of the open operation for resection of varicose spermatic veins. 1. Under the guidance of the sense of sight, every step of the operation can be carried out with precision. Insufficient or excessive removal of veins does not occur. The operator removes only that amount of veins, the ablation of which cannot lead to undesirable immediate or remote sequelae. With the subcutaneous methods, the veins can be ligated, but not resected.

2. The inclusion of the vas deferens in the ligature can always be avoided. In the subcutaneous operations, a thickened vein may be isolated under the impression that it is the vas, and the vas be ligated with some of the varicose veins. The ligation of the vas deferens permanently occludes the excretory duct of the testicle of that side. From the standpoint of procreative power, the testicle whose vas has been ligated is and remains valueless.

3. More complete hemostasis is secured. With the open method, the complete control of hemorrhage is easily effected. In the course of the subcutaneous operations, a small or a large vessel may be accidentally punctured; such a puncture can lead to the formation of a hematoma, can give rise to an extravasation of blood into the scrotal tissues. Either of these accidents necessitates an incision of the scrotum, followed by evacuation of the extravasated blood, and ligation of the bleeding points.

4. A slight lengthening of the usual incision enables the surgeon to appropriately treat co-existing neighboring pathological states, as hernia, vaginal hydrocele, neoplasms of the spermatic cord, etc.

5. The simplicity of technique of the open operations places them within the reach of all operators.

The permanent occlusion or obliteration of the ligated, divided or undivided, spermatic veins is affected by the organi-

zation of the thrombi that form on the proximal and distal sides of the ligatures placed on the non-divided vessels, or on the ligated proximal and distal ends of the divided vessels. In the subcutaneous methods, the expectation of permanent cure is also based on the organization of thrombi forming on each side of the ligatures. For the organization of a thrombus time is required. The transformation of a thrombus into a block of connective tissue is effected not by the cells contained in the thrombus, but by the proliferation of the cells of the injured vessel-wall. The vessels of the occluding block of connective tissue are derived from the vaso-vasorum of the ligated vein. Previous to the organization of the thrombi, undue activity on the patient's part may lead to the dislodgement or detachment of thrombotic particles, and to embolism formation and its consequences. Therefore, all forms of operative treatment that do not exact confinement of the patient to bed for at least a week are to be condemned. Early activity on the part of the patient has determined such unfortunate accidents as pulmonary infarcts (30).

For the treatment of varicocele, many various operative procedures have been suggested. Vince (31) treats varicocele by resecting and shortening the lengthened and relaxed cremaster muscle. He incises the skin from the external abdominal ring to the superior pole of the testicle. An incision of the same length divides the intercolumnar fascia and the cremasteric fascia and muscle longitudinally. The cord is elevated from its bed and retracted. Vince then applies transversely on the cremaster muscle two forceps at a distance of 6 cm. from each other and resects that portion of the muscle extending between the forceps. The two muscular extremities having been sutured to each other, the cord is replaced on the surface of the muscle, and the longitudinal incision closed. In exceptional cases, Vince supplements this procedure by partial resecting of the diseased veins.

Brault (24) resects the varicose veins and, in addition, excises an oval flap from the postero-external surface of the serotum. He recommends the employment of his method in all cases of varicocele that have recurred after bilateral resection of the serotum. For the operative treatment of varicocele

he considers bilateral resection of the scrotum the operation of choice. Brault's operation consists of the following steps: (a) excision of an oval postero-external scrotal flap; (b) longitudinal division of the spermatic cord's sheaths; (c) resection of the varicose spermatic vessels; (d) careful suturing of the sheaths of the spermatic cord; (e) closure of wound in such a way that the resulting line of suture has the shape of an inverted V.

For the cure of varicocele, Parona (18) has devised an operation that still enjoys a degree of popularity. Its different steps of execution are the following: (a) make 6 cm. incision extending from the external abdominal ring downward upon the neck of the scrotum; (b) isolate the testicle. The testicle and the spermatic cord are completely freed so as to permit their delivery, their enucleation through the scrotal incision. The cord is isolated as far as the external abdominal ring; (c) incise longitudinally and then evert the tunica vaginalis testis. After eversion, the upper margin of the tunica vaginalis is sutured with catgut to the internal pillar, to the pubic fibrous tissue and to the external pillar in such a way as to convert the vaginal tunic into a sac unsheathing the dilated veins. The empty scrotal sac created by the suspension of the testicle is obliterated by suturing of the opposed walls.

Parona aims by this approximation of the testicle to the external abdominal ring: (a) to lessen the height and weight of the blood column in the spermatic vein and branches; (b) to favor the venous return circulation; (c) to aid the action of the cremaster muscles; (d) to obtain a permanent firm physiological suspension of the testicle. The everted and fixed tunica vaginalis maintains the testicle elevated, exerts moderate compression upon the varicose veins and to a degree hinders the elongation of the spermatic cord. Parona's operation is not serviceable in the presence of a markedly pendulous scrotum or of a varicocele too voluminous to be contained in the vaginal suspensory. It has been objected to Parona's operation that inasmuch as it deprives the testicle of its vaginal envelope it is anti-physiological.

Though the fore-mentioned methods have, in some hands, given good results, we recommend their general abandonment

and the employment of the operative procedures, separately exceptionally, conjointly almost always, that we are about to describe.

We aim by these two operative procedures, performed at one and the same sitting: 1. to suppress the subjective symptoms: pain, sensation of weight and fulness of the scrotum, dragging sensation along inguinal canal, etc.; 2. to secure the re-establishment to physiological conditions of the altered venous circulation and thereby to prevent degenerative changes in the testis. Should the testis be undersized or somewhat atrophied call previous to operation the patient's notice to the condition, it becomes more apparent after resection of the veins; 3. to restore to the scrotum its normal contour and dimensions; 4. to support the testicle in such a way as to permanently hinder its descent as well as to prevent the elongation of the spermatic cord; 5. the removal in part of the diseased vessels.

In the operative treatment which we practice and recommend for varicocele, we make a direct and an indirect attack upon the existing pathological conditions. We ablate some of the varicosed veins; we shorten the relaxed and lengthened scrotum. It is a mixed method suppressing by resection of the varicosed veins the main element of the condition; and by resection of the pendulous scrotum, an accessory, a contributory element of great importance.

This double operative procedure—a. resection in part of the diseased veins, and b. resection of the pendulous and attenuated scrotum, can, without haste, be readily performed in about 15 minutes. It entails no risks to life and, when performed by careful and experienced hands, is never followed by undesirable immediate or remote sequelae. An assistant is necessary.

The patient and the operative field having been prepared according to the teachings of modern aseptic surgery as for a major operation, it is well to have recourse to general anaesthesia. We know that these operations can and have been performed successfully with the aid of local anaesthesia, but clinical observation and operative experience have taught

us they can be performed immeasurably better if the patient be anesthetized by the aid of a general anesthetic. General anesthesia secures a more complete abolition of pain and enables the surgeon to do his work deliberately and precisely.

Operation Proper. 1. Patient in the dorsal recumbent position, the lower limbs straight out, short distance apart; 2. reparation of the operative field—inguinal, pubic, and scrotal regions; 3. the operator makes an inch or an inch and a half oblique incision, the midpoint of which corresponds to the pubic spine, dividing the skin and superficial fascia and exposing the spermatic cord. This incision is practically a suprapubic incision. It is easier to isolate the veins close to the inguinal canal than near the testis, and as here fewer vessels have to be ligated, the mass included in the ligature is smaller. Thomson says that the secret of the operation is to attack the veins high up where they are lying in a distinct tube of fat and fascia, distinct from the vas; 4. the spermatic cord is then isolated and elevated from its bed. The cord's envelope, the infundibuliform fascia, the cremasteric fascia and muscle, and the intercolumnar fascia, are incised longitudinally and thus the spermatic veins and branches are made easily accessible; 5. identify the vas deferens and if possible the spermatic artery (38). The vas deferens, owing to its volume, its consistency, and its cord-like feel, can always be recognized; the spermatic artery, however, is at times extremely difficult to positively identify. As the pulsations of the spermatic artery are often imperceptible, they do not furnish a constant guide to the vessel. Bear in mind that the artery is always close to the vas deferens, that it accompanies it and follows the same course, and avoid including the vessel in the ligatures (38). Do not injure the vas deferens and its blood-supply. Leave the veins of the vas deferens and also those that course upon the cord's sheaths undisturbed. These vessels should not be ligated, should not be resected as they are important for the re-establishment of the collateral circulation. The spermatic veins have numerous anastomoses with the veins of the vas deferens, of the scrotum, of the septum scroti. Operate with as little traumatism as possible, and observe the most rigorous asepsis. Let there be no needless handling of

the vas deferens, of the epididymis, of the testis. If the vas deferens or testicle be roughly handled, orchitis or epididymitis may supervene.

6. The condition is usually limited to the spermatic veins or pampini-form plexus. The larger portion of this plexus can be resected. To resect all of the veins of the spermatic cord is a grave mistake. In Porter's (32) case, after an operation for varicocele, the testicle, owing to a sufficient blood-supply not having been left, became inflamed, was unable to recover, and sloughed.

Isolate the veins for a greater distance than the amount of vessels to be removed, so that when the divided ends are united too great kinking of the vas will not take place (33). Though the vas deferens is about eighteen inches long the actual distance traversed by it is, owing to its somewhat convoluted course, not more than twelve inches. Therefore shortening of the cord by resection of the veins does not interfere with the functions of the vas deferens. Most operators ligate the veins with strong cat-gut at two different points, about two inches apart. The intervening portion of the vein is resected. Other operators ligate the veins about half an inch above the epididymis, and again a little below the external abdominal ring and resect the intervening portion. It goes without saying that these compressing ligatures are applied perpendicularly to the course of the vessels. The upper and lower ligatures are tied to each other; there results from this apposition of the ends of the severed veins an induration which need cause no alarm as it gradually undergoes absorption, in about three months (Fotter 35).

The ligation and resection of the left spermatic veins interrupts the weight of the venous-blood column that formerly extended from the left renal vein downwards to the testicle. The knotting together of the upper and lower ligatures of the divided veins assists the enfeebled cremaster muscle in its endeavors to support the dependent testicle. This also removes more or less continuous strain from the vas deferens, and its accompanying vessels. After approximating the ligatures, the proximal and distal stumps are sutured to each other.

Eads (34) and others advise avoiding injury to the genitocrural nerve which supplies the cremaster muscle. If this nerve is cut, the portion of the cremaster muscle distal to the seat of the division is deprived of its power of contractility, its blood-supply is diminished, it wastes, weakens, stretches and the natural consequences are a flabby scrotum.

7. Carefully inspect the stumps for oozing. Great care must be taken to secure complete hemostasis, for small bleeding points may give rise to large-sized hematomata. Slight hemorrhage, such as would occur in connection from a damaged vein leads to the formation of a hematoma which can by exerting pressure upon the remaining veins prove a potent factor in determining oedema and thickening of the scrotum, subjacent tissues and testis. Post-operative hemorrhage may be due to slipping of the ligature, to the use of a faulty knot, to defective ligature material.

By tying together the proximal and distal ends of the divided vessels, in case of slipping of ligatures, it is easier to locate the bleeding point. Krone (36) anchors the divided stump of veins above to fibers of ring, and below to Poupart's ligament.

Corner and Nitch (37) report two cases of varicocele in which resection of the veins was followed by post-operative hemorrhage. In these two cases the pelvis was filled with blood which had escaped from the retracted end of the spermatic artery projecting through a rent in the peritoneum. 8. After all hemorrhage has been arrested, the divided sheaths of the cord are sutured and this is followed by the closure of the operative wound.

As previously stated we always supplement this resection of the veins of the spermatic cord by partial amputation of the scrotum. We consider this step essential to effect a prolonged if not a permanent cure of the condition. In over one hundred cases operated on during the last two years at the West Side, Reliance, University, and Cook County Hospitals, we have not noted a single tendency to recurrence.

The relaxed pendulous and attenuated state of the scrotum associated with varicocele suggests retrenchment of the redundancy. By resection of the scrotum, a natural suspensory

is formed which will keep the testicles in good position and prevent a recurrence of the disease. A close fitting scrotum by better supporting the testes, by keeping them higher, prevents traction upon the veins of the pampiniform plexus and thus renders them less liable to dilatation.

Skin of scrotum is thin, elastic, is pigmented and marked by a longitudinal raphe and when contracted by transverse ridges. In scrotoectomy performed *secundum artum*, the vas deferens and its vessels and the spermatic artery are not exposed to injury.

The technique for scrotoectomy which we are about to describe possesses the following advantages: (a) rapidity and simplicity of execution. Interrupted sutures are not used; they complicate and prolong the operation and do not afford as much protection against hemorrhage as the continuous suture-ligatures employed. (b) adaptability to the cure of relaxed scrotum irrespective of cause. It will be found serviceable to correct scrotal overdilatation caused by voluminous varicoceles, large scrotal hernias, large hydroceles, testicular neoplasms, etc. It builds out of the scrotal envelopes a natural suspensory and removes all the scrotal tissue that appears needless, superfluous. (c) it requires little if any post-operative treatment. As catgut is the only suture and ligature material used, there is no call for the removal of stitches or ligatures. The portion buried in the tissues is absorbed; the remaining portion is cut off; (d) no special instrument is required. No clamps are used. Two needles, three artery forceps and a pair of scissors suffice to accurately perform the operation; (e) absolute control of operative hemorrhage; (f) absolute prevention of post-operative hemorrhage; (g) safety and efficacy. In over one hundred cases, our results have been uniformly good. We have had a few cases of healing by delayed first intention, but in the cases, even healing by secondary intention does not unfavorably influence the ultimate results of the operation.

Scrotoectomy would have enjoyed a greater popularity, if a method had been devised previous to our own enabling the surgeon in this operation to easily and surely control hemorrhage. It is the fear of hemorrhage, operative and post-opera-

tive, the fear of hematoma formation which has deterred many surgeons from performing this operation, and which has led others to devise ingenious clamps for the prevention and control of this accident. There is not any clamp, whether convex or concave, whether designed to be applied proximally or distally to the site of section that has proved universally efficient. It is now conceded that clamps do not furnish an absolute safeguard against hemorrhage. Accidents have followed their use by competent hands (Dardignas, Lucas-Championniere, etc.). We have discarded the use of clamps, special or others, and have succeeded in working out a technique which absolutely eliminates all danger of hemorrhage, primary or secondary.

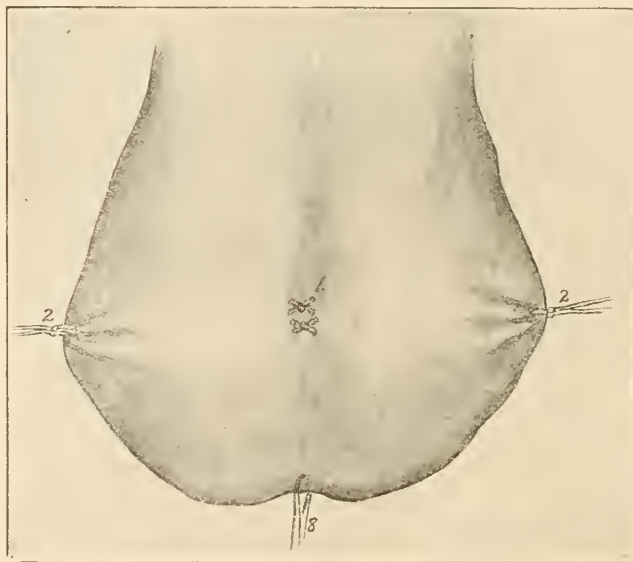


FIGURE 1.

In resecting a scrotum, the line of section may be unilateral, may be bilateral, may be longitudinal, may be transverse. We almost invariably resort to a bilateral transverse line of section. The same technique, however, is serviceable for a longitudinal line of section. In longitudinal resection, the cicatrix falls in the line of the median raphe, or rather reconstitutes it, and the scrotum is in no way deformed. Transverse

bilateral resection possesses the advantage of acting upon both halves of the scrotum at the same time, and of giving a cicatrix that does not in any way interfere with future penile erections.

Proceed as follows: 1. The assistant with the fingers of one hand spreads the scrotum to its maximum, and with the fingers of the other hand pushes the testes toward the inguinal canal. It is desirable that neither the testes nor the tunical vaginalis be traumatized. The operator then estimates the amount of serotal tissue which it is proper to remove. Enough must be removed so that the new serotal sac will firmly support the testes. Care must also be taken not to remove too much; otherwise, the new serotal sac will cause discomfort by compressing the testicles against the pubic bones.

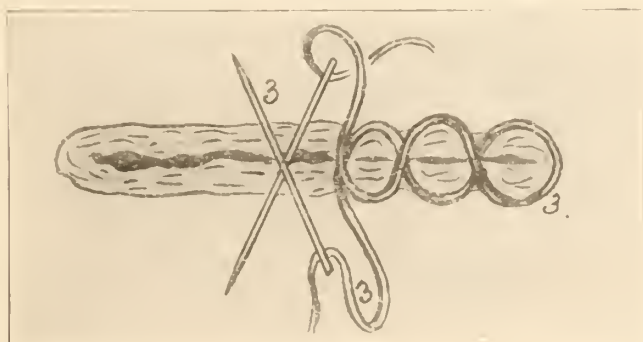


FIGURE 2.

2. It has been observed in this operation that the vessels of the septum scroti were frequently the origin of the post-operative hemorrhage. Therefore, in serotectomy, these vessels must be kept in mind. In operative surgery the customary and elective way of arresting hemorrhage is by ligating vessels at their bleeding points. Surgeons rarely depart from this rule and the ligation in continuity of a vessel for the arrest of hemorrhage is an exceptional procedure performed only under exceptional conditions. In the ligation of a vessel, the compressing ligature is placed perpendicularly to the course of the vessel and directly upon its walls. This is the usual procedure and is known as immediate ligation. In serotectomy,

however, we make use of mediate ligation, the compressing loop of catgut is placed perpendicularly to the long axis of the vessel, and in such a way that between it and the vessel wall there intervenes a layer of serotal skin and underlying tissues.

3. Two catgut ligatures are introduced at the point marked 1, Fig. 1, 3, and 4; they are knotted and cut short. These ligatures perforate the anterior and posterior serotal walls at about the medium raphe and are designed to control, to prevent hemorrhage from the septal regions. They are important factors in the securing of hemostasis.

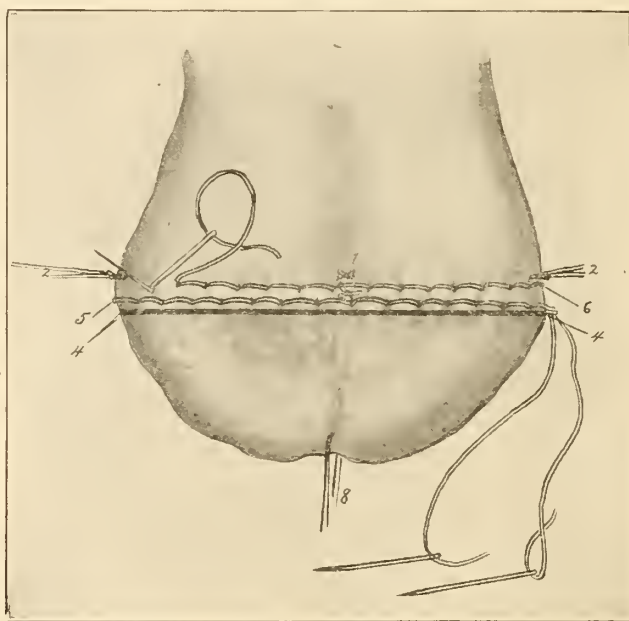


FIGURE 3.

4. One ligature is introduced at each lateral margin of the scrotum, 2 Fig. 1, 3, and 4. These two ligatures are knotted, and the ends for the time being left long serve as guy-ropes maintaining the serotal tissues taut while the two suture ligatures are being introduced.

5. The point of serotal resection has previously been determined, 4 Fig. 1, 3, and 4. Two long ligatures of thick catgut are selected and each one is needled at both ends. The

needles which I prefer for these suture-ligatures are long straight needles, flattened from side to side (straight spear-pointed needles are also useful). No needle-holder is used. The needle-eyes must be large enough to allow the easy gliding into them of the catgut. The assistant, by the aid of the two lateral ligatures, 2 Fig. 1, 3, and 4, and a forceps or tenacula placed at point, 8 Fig. 1 and 3, spreads out fan-shaped the portion of serotal tissue which the surgeon is about to ablate.

6. At about a $\frac{1}{4}$ cm. from the proposed line of serotal section, the operator makes the middle of one of the double-

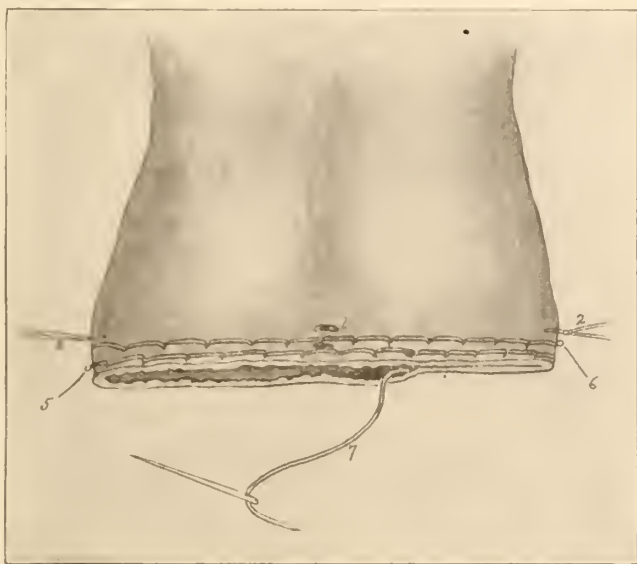


FIGURE 4.

needled strands of catgut saddle the lateral serotal margin nearest to him, and then proceeds with the introduction of the first suture-ligature as shown in Plate 3. This is a continuous stitch, somewhat analogous to the cobbler's stitch, extending from one lateral serotal margin to the other and including in its loops the anterior and posterior serotal walls and intervening tissues, (5 and 6, Fig. 1, 3, and 4). It is seen that the two needles are used at the same time; and that they constantly go in diametrically opposite directions (Fig. 2). Upon reaching the further lateral margin, the ends of the suture-ligature are tied, knotted and cut short.

7. A similar continuous, cobbler-stitch-like suture-ligature extending from one lateral scrotal margin to the other is now inserted (6 Fig. 3 and 4) at about a $\frac{1}{4}$ cm. within the one just introduced, or at about $\frac{1}{2}$ cm. within the line of proposed scrotal section. (4 Fig. 1, 3, and 4). Like its mate, it perforates the anterior and posterior walls and its loops are intended to approximate the scrotal tissues and to control hemorrhage. By looking at the illustrations it will be seen, that the needle punctures of one suture-ligature correspond to the middle of the loops. After this suture-ligature has covered the entire transverse width of the scrotal sac, it is tied, knotted and its ends are cut short.

8. The operator now cuts off with scissors the redundant scrotal tissue (4 corresponds to the line of scrotal section.).

9. Usually the edges of the wound gape and this is overcome by the introduction of a continuous subcuticular catgut stitch (7 Fig. 4). The wound is dressed, rubber tissue being placed over the dressing to prevent the possibility of contamination by urine.

10. A double spica gauze-bandage is now so applied as to maintain the testicles elevated upon the abdomen, and to exert slight but painless compression upon the new formed scrotal sac. As after other operations performed upon the spermatic cord or the serotum, the patient may suffer for a few days from urinary retention. This is easily and safely overcome by gentle and aseptic catheterism.

Resection of veins is occasionally followed by some oedema of the serotum, a little engorgement of testes, and a moderate effusion into tunica vaginalis. This gradually disappears and need occasion no alarm.

So as to maintain the operative region dry, it is well to change the scrotal bandage every few days.

The patient is confined to bed two weeks and for a month thereafter, but no longer, is to wear a well-fitting suspensory.

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Clinical Department

REPORT OF THREE UNUSUAL CASES OF INTEREST TO THE GENERAL PRACTITIONER AND OTO-RHINOLOGIST,*

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The following cases are reported because of their unusual interest, rarity and importance and also because of the very misleading symptom presented by each, which prevented a correct early diagnosis and an institution of the proper surgical treatment. They are also of equal importance and interest to the general practitioner as well as the one doing otorhinology. For these reasons your very careful attention and consideration is asked to a brief presentation of each

CASE 1.

SEROUS MENINGITIS AS A RESULT OF CHRONIC ETHMOIDITIS
AND FRONTAL SINUSITIS—RELIEVED BY OPERATION. TYPHOID
FEVER OF REVERSED TYPE FOLLOWING.

On October 23, Miss S., aet. 25, was brought to me by Dr. R. H. Cowley, of Berea, with the following history from the attending physician: "Six years ago suffered severe pain in forehead and temples. Right maxillary antrum opened through the alveolar process several months since; discharge of pus with no abatement of symptoms for several weeks after operations. Attacks of greater or less severity at short intervals since. Three years ago, very violent attack lasting two or three weeks. Pus at this time appeared spontaneously after ten days' suffering; pus ran from both sides of the nose and pharynx. Much suffering at intervals at that time. Sometimes confined to her bed. One year ago, the right middle turbinate was dissected with slight relief, but not much. One week ago came to Dr. Cowley's Hospital with violent pain of the same character as before. The pain grew rapidly worse, temperature running from 99 to 101. On the 22nd inst. the left middle turbinate was removed with the anterior ethmoid

* Read before the Lexington and Fayette County Medical Society, Nov. 1910.

cells. The middle turbinate contained one large ethmoid cell. No relief. Brought to the Good Samaritan Hospital, Lexington, on the following day."

When I saw her she had been in the hospital about an hour and a half. Her face was flushed, eyes of unusual brilliancy, pupils widely dilated though responsive to light. Her mental condition was abnormally acute, tongue coated, temperature 103. In reply to my question, "What is the trouble," she spasmodically placed her hand on her forehead and said "My head, my head." Locating the pain at the bridge of the nose, saying it was of a dull boring nature back of both the eyes. Notwithstanding she had taken repeated doses of morphine in the last forty-eight hours (as much as two grains in all), she would shriek out with pain every fifteen to twenty minutes, being aroused from sleep by its acuteness. She described it as of a terrible cutting nature. This acute pain lasted only a few seconds, but she said the dull, boring pain never ceased. There was slight edema in the inner canthus of both eyes, acute tenderness on deep pressure under the orbital ridge. There was a slight discharge of pus from the posterior ethmoid cells but none from the anterior nares. Transillumination was positive over both sides of the frontal sinus. The pain was most acute in the right side. This had been the case since the trouble in the antrum six years ago. A diagnosis of frontal sinusitis with serous meningitis was made and an operation advised. The operation was begun three hours after the patient's admission to the hospital. The usual incision by the Killian method was made on the right side and the bone was found to be completely eburnated with no trace of the frontal sinus whatever; the removal of the bone covering the right frontal lobe of the cerebrum showed no sign of diploic or cancellated tissue. The dura appeared normal though perhaps slightly hyperaemic. On exploring carefully with the Killian explorer for adhesions in the neighborhood of the cribriform plate, there was quite a gush of serum. Drainage was made into the nose and an exploration for septic ethmoid cells was made but none found, these having been thoroughly removed by the attending physician in an operation two days before. The incision for opening the left

sinus was now made. The periosteum was not so densely adherent as on the opposite side, the outer table being thin, and having a bluish, soggy appearance, and was readily opened with Killian triangular chisel. There was no evidence of pus or mucopariosteum lining the sinus. The infundibulum was completely blocked by bony obstruction, evidently the result of repeated attacks of inflammation. The bottom of the sinus dipping into the obstructed infundibulum was filled with a polypoid pyogenic membrane. The smallest silver probe could not be passed through the infundibulum, so complete was the obstruction. The infundibulum was opened and enlarged with difficulty and several middle ethmoid cells filled with granulations and pus were removed, and a large drainage tube was brought down through the sinus into the anterior nares. The results of the operation was immediate relief of all symptoms. The wound healed by first intention: all stitches were removed the fourth day, the dressings left off the fifth day, with no evidence of a scar tissue. On the sixth day she began to run a little fever in the morning between 4 and 5 o'clock, which would subside in a few hours. This increased for several days with a normal surgical condition. The blood count showed no evidence of pus absorption and the entire case from a surgical standpoint was ideal. On the twelfth day after the operation typhoid fever was suspected and both Diazo and Widal tests were positive. The case has run the usual course of typhoid fever, the temperature going as high as 105, always reaching the highest point in the morning between 4 and 5 o'clock. I submit herewith Dr. Cowley's summary of the case, in which he emphasizes the lessons that this case should teach every practitioner of medicine:

"(1) From her experience six years ago, it is evident that the presence of pus in the maxillary sinus is of no importance as determining the source of the trouble. In this case, the trouble was 'higher up.'

"(2) It is not necessary to have pain and edema over the frontal sinuses in order to prove the existence of frontal sinus trouble. In this case the pain was oftenest and most severe in the left temple. Only slight soreness over the brow.

“(3) Transillumination as a diagnostic aid is only of secondary importance.

“(4) The danger of meningitis in these cases is very important and justifies an operation for investigation even when the symptoms are not conclusive.

“(5) The operation in the hands of a thoroughly competent man is no more dangerous than other major operations, but it must be considered as such and must not be undertaken by any one but thoroughly experienced nose and throat surgeons.

“(6) I believe that a large per cent. of the deaths from meningitis, which are so common in this section, are due to sinus disease.

“(7) This case would probably have terminated fatally if it had been operated on twenty-four hours later than it was.

“(8) When undertaking the operation all the sinuses, including the sphenoid, should be opened and thoroughly drained, for otherwise it is impossible to exclude the possibility of their being involved.

“(9) The general practitioner is under obligation to take enough work on this subject so that he may be able to recognize these cases and advise the patient in regard to treatment. To most general practitioners this field is *terra incognita* absolute.

“(10) To this end our specialists, who for the most part teach these subjects in our medical schools, should quit surrounding the subject with a mist of indefiniteness, forget themselves, and teach the subject. Many specialists seem to be afraid to make their subject clear and easy for fear the general practitioner will learn something about it. The fact being that the more the physician knows the more cases he sends to the specialist.”

From the standpoint of the general practitioner this case is also interesting in that it was a reversed typhoid. The exacerbation of the temperature being in the early morning instead of the evening.

CASE 2.

MULTIPLE ABSCESSSES OF THE ANTERION SURFACE OF THE LEFT FRONTAL LOBE OF THE CEREBRUM COMPLICATED BY MASTOIDITIS AND OTITIC MENINGITIS—AUTOPSY.

Was called to see this case November 2 at midnight in consultation by Dr. F. H. Clarke, who gave the following history:

“Mr. H., aet. 43, was seen with Dr. T. H. Kinnaird October 28. There was a history of an attack of otitis with profuse discharge some weeks earlier, with which his illness was said to have begun, although there was an indefinite account by his family of nervousness previous to that. This was attributed by them to his loss of his position as a railroad conductor. Later I learned from his former physician that he had been treated for syphilis. Under treatment the discharge from the ear was said to have ceased, and almost at once it was stated he began to complain of his head. At the time of my examination, about 11 a. m., his pulse was 80, and temperature 99, and respiration 20. There was slight rigidity of the muscles of the trunk, arms and legs, although he used them voluntarily. The deep and superficial reflexes were exaggerated. Kernig’s and Babinski’s signs were absent. The pupils responded to light and accommodation but slowly. Mentally he seemed dull and confused. Orientation was deficient as to both time and place. He could not tell approximately the time of the year, month, or day of week. Could not remember how long he had been in the hospital. Did not know where he was, although he was when well, familiar with the Good Samaritan Hospital. He knew he was not at home and seemed to have a vague idea he was in a hospital. He answered questions slowly; sometimes only they were repeated. Said his head ached when questioned, but did not seem to be suffering. When answering questions he would sometimes use profane language, which his wife said he never did in her presence, but he was very profane when well. The day following this examination his confusion and dullness increased and gradually grew into coma.”

When I saw him I was informed that his general condition had rapidly grown worse during the day, and late in the eve-

ning he became comatose. There had been some convulsive movements of the right arm and paralysis of the same. His pupils responded sluggishly to light; other reflexes were exaggerated. At this time his pulse was 60 and his breathing stertorous; there was spasmodic contraction of the right arm and hand; no ophthalmic examination was made; the left ear was normal; the right ear showed a healed perforation in the lower posterior quadrant, and the superior-posterior half of the drum membrane was of a dark red color and markedly bulged, as was also Shrapnell's membrane. There was an edematous sagging of the posterior, superior walls. Transillumination as compared with the mastoid on the opposite side was positive. There was no pain on deep pressure or percussion. The leukocyte count was 22,600. Abscess of the brain was suspected from his previous history and present condition, with the possibility of being a broken-down infected gumma or a tubercular meningitis. On account of the recent ear trouble and the present condition already described, abscess of the spheno-temporal lobe as result of infection from the ear was suspected, and immediate operation upon the mastoid and exploration of this lobe was advised. This was done. After making the usual incision over the mastoid the periosteum was with great difficulty separated from the bone; bleeding most profuse; the bone showed eburnated appearance with the absence of the suprameatal spine and triangle. The cortex was thick and sclerosed; the antrum and cells were small, almost diploic and filled with granulations and dark serous fluid. Firm organized granulations adhered to the tegmen of the middle ear, attic and antrum, and when removed with the forcep a fissure was found leading into the middle fossa through the tegmen at least one-eighth of an inch wide by three-fourths of an inch long. A very free opening into the middle fossa was made; the dura was tense but of normal color. An incision was made at the most dependent part large enough to admit the entrance of Jackson's explorer and four or five efforts made to locate the abscess without success. The patient's general condition two hours after the operation was better, after which he began rapidly to lose ground and died at 10 a. m., just ten hours after the operation.

Post mortem by Dr. E. Bradley showed a pachy-meningitis over the spheno-temporal lobe of the right side. There was no other evidence of meningitis, no pathological condition found in any part of the right side of the brain. On the left side a small abscess cavity holding about five or six drops of thick yellow pus was found in the superior frontal fissure. Between this and the middle frontal convolution was an abscess about the size of an English walnut full of thick, greenish yellow pus. The abscess walls were thickened and disintegration showed every evidence of long duration. From the history of the case and what was found at the time of the operation, and what was revealed by the post mortem, my conclusions are that this abscess of the middle frontal convolution of the left side of the brain was of long standing. That the acute mastoid trouble on the opposite side and the degree of septic poisoning that evidently resulted from it had weakened the patient's power of resistance and lowered his vitality so that it caused the breaking down and absorption of the products of the old abscess. There was no evidence of a gumatous condition unless the large abscess was one which had undergone disintegration and suppuration.

This case is interesting from the fact that the abscess cavity was located in that portion of the brain so far from the motor and focalizing centers as to give no symptoms indicating its location. The continuance and character of the headache and other symptoms and the previous history of syphilis with the possibility of the trouble being of a rare tubercular origin, were three probable considerations as to the exact cause of the trouble that confused the internist who had charge of the case. I feel convinced that the otitic meningitis was merely an incident in the case. All of the indications in the case point to the fact that the abscess in the frontal lobe was of long standing. This case also illustrates the uncertainty and treacherousness of an acute otitis media following influenza. Had there not been involvement of the brain other than that as the result of the extension of the infection from the ear, the operation would have given him a chance for his life. As it was I know of no possible means of diagnosis which would have indicated the exact location of the abscess found

in the left frontal lobe, and this case is presented with the hope that in the discussions some valuable suggestions may be brought out.

CASE 3.

MASTOIDITIS WITH EXTENSIVE BONE DESTRUCTION AND LARGE EPIDURAL ABSCESS IN MIDDLE CEREBRAL FOSSA. PERISINUS ABSCESS EXTENDING INTO CEREBELLAR FOSSA.

Mr. F. H., aet. 44, referred to me by Dr. Robt. Carriek. Came to the Good Samaritan Hospital on the morning of November 11, 1910. He told me that his ear had begun paining him suddenly three months ago, but he had never had any previous ear trouble. Suffered a great deal for two weeks, but it began to discharge and was comfortable until the discharge ceased. He stated that his ear had been lanced several times and the relief was so great that he returned to his home in Wolfe county. Said his general health was good, had been able to work most of the time, until he started for the train to come to Lexington, but he had a pain in the back of his head and deep down in his ear which was so great that he could not sleep. The ear discharged profusely all of the time. He had been feeling better since it began to swell behind his ear. Pulse and respiration were normal, nothing to indicate necessity for examining the eyes; reflexes were normal and media clear. No ophthalmoseopic examination was made. There was a large fluctuating tumor back of the mastoid process, at least one inch from the attachment of the cartilaginous ear. There was no swelling over the tip of the mastoid. There was tenderness on deep pressure over the tip and antrum and marked edema over the entire temporal and occipital region. There was a profuse discharge of dirty, yellow pus, which filled the auditory canal, which when wiped out would return, filling the canal again in several minutes. Examination of smear from the pus showed staphylococcal origin. Patient was prepared for operation and six hours later the mastoid was opened. After separating the periosteum the bone was of a dirty blue color, soggy in appearance, and a perforation was found leading from the antrum through the cortex and undermining the periosteum, producing a fluctuating mass. This was one and one-half inches posterior to the auditory canal. The perforation in the cortex being posterior to and on a line

with the antrum. A fistulous tract leading from this perforation in the antrum and also above into an abscess into middle fossa, which contained 4 dr. of yellow pus and semi-organized fibrous granulations. An abscess cavity containing one drachm of pus found around lower portion of lateral sinus just above tip, and extending into the cerebellar fossa. The inner table of the mastoid process was completely destroyed, dura and sinus covered with granulations.

This case is one of the most extensive that I have ever had with one exception, and is unusual in that a person with such an extensive destruction of bone, with so large a epidural abscess in the middle fossa, with such a large exposure of the lateral sinus, with such a nasty perisinus abscess, with complete destruction of the mastoid process at the tip, including the inner table, should have been able to have pursued his work with so little discomfort, and presented no more alarming symptoms than he did at the time of the operation. This is a case where all of the classical symptoms of mastoiditis presented themselves, but evidently these did not make their appearance until long after the epidural abscess in the middle fossa had developed. Complete and uneventful recovery, having had no untoward symptoms whatever since the operation.

METHOD OF PREPARING 606.

Kromeyer recommends the following method of preparing Ehrlich's arsenobenzol, 606: A stated amount of the drug, 3.0, for example, is thoroughly rubbed up in a mortar with a small quantity of liquid paraffine, and more and more is added up to 30.0; then each cubic centimeter will contain 0.1 of 606. Put up in dark glass-stoppered bottle and keep in a dark place. With this emulsion the intramuscular injections are made precisely as is done with that of salicylate of mercury, slowly, to prevent tissue damage, using also a somewhat stouter needle. In the course of 100 injections made, neither severe pain nor swelling was observed, and the clinical effect was prompt. Dr. Treupel and others believe that Kromeyer's way will very probably be followed by most practitioners.— *Briener klinische Wochenschrift*.

Selected Articles

TREATMENT OF TUBERCULOUS GLANDS OF THE NECK.

A STUDY OF 649 OPERATED CASES.

BY EDWARD STARR JUDD, M. D.,
OF ROCHESTER, MINNESOTA,

Junior Surgeon to St. Mary's Hospital.

Treatment of tuberculous glands of the neck by excision dates from the time of Galen, although the first systematic dissections were probably done by Billroth in 1870 and by Rushton Parker and others in 1871.

Formerly, glandular tuberculosis of the neck was supposed to be an expression of general glandular infection, and it was believed that the infection travelled upward from the focus at some point inside the chest. Until the appearance of the comparatively recent study of the anatomy of the lymphatic system by Sappy, Leaf, Poirer, and Cuneo, our knowledge of the source of infection and the avenues travelled by it was very meagre.

There are approximately 800 glands in the entire human body, and nearly 300 of these lie within the tissues of the neck. The glands in this region are the first to appear in the embryo. Placed at the juncture of the head and neck are several groups of glands forming a kind of "glandular collar." This collar is composed of:

1. Suboccipital group, whose afferent vessels drain the occipital portion of the scalp; and efferent vessels which pass to the substernomastoid glands.

2. Mastoid group, which is composed of two or three glands receiving drainage from the temporal region of the scalp and ear, and with efferent vessels to the substernomastoid glands.

3. Parotid glands. These glands are again divided into several groups in different relations to the parotid salivary gland. There are from ten to twenty glands in this group; some lying superficially, some within the parotid, and a sepa-

rate groups lying between the parotid and pharynx. The afferent vessels to these glands come from the anterior part of the scalp, ear, eyelids, root of the nose, nasal fossa, and pharynx, and the efferent vessels pass into the deep cervical chain.

4. The submaxillary glands, three to six in number, lie along the lower border of the submaxillary bone. This group drains the upper and lower lip, cheek, nose, side of the tongue, and gums, and empties into the deep cervical chain.

5. Submental glands; a small group lying between the anterior bellies of the digastric muscles receiving afferents from the lower lip, floor of the mouth, and tip of the tongue, and sending efferents to the submaxillary glands.

6. Retropharyngeal glands. These glands receive vessels from the nasopharynx and drain to the deep cervical chain.

It will be seen that this glandular collar, composed of the six groups of glands, drains the entire scalp, skin, and mucous membrane of the head and face, and that each group sends its drainage to the deep cervical chain. There are no lymphatic vessels passing upward or communicating at any point within the skull.

The descending cervical chain, composed of the glands lying anterior and posterior to the internal jugular vein, and also of those lying in the supraclavicular region together with the secondary groups, may best be considered in a pathologic or surgical sense as one large group. The deep groups are each made up of a number of large glands. In the upper half of the neck they lie almost entirely behind the sternomastoid muscle, while in the lower division they lie opposite the posterior border and in the supraclavicular triangle. The chain extends from the tip of the mastoid process to the junction of the internal jugular and subclavian veins. The afferent vessels to this chain are those coming from the groups making up the cervical collar, and also several vessels passing directly to the deep glands from the scalp, tongue, palate, oesophagus, and thyroid. The vessels leading from these groups (deep chain subclavicular-supraclavicular) unite on either side of the neck into one or two large lymphatic vessels called the jugular trunks; and these in turn empty on the right side into the

internal jugular or subclavian veins, and on the left side directly into the thoracic chyle duct.

The glandular system in the neck terminates on either side in these large lymphatic vessels and has no direct communication with the lymphatic system in the thorax. Poirier and Cuneo, speaking of the afferent vessels of the supraclavicular group say: "On the other hand these glands receive no vessels coming from the mediastinal glands. Cases of adenitis following mediastinal or abdominal neoplasms can only be explained by a retrograde thrombosis of the afferent vessels of these supraclavicular glands."

To me it seems very important that we should appreciate this point. A great deal of the incomplete and half-hearted work done in removing these glands has been due to the conviction that the diseased condition extended down into the mediastinal glands. From a more thorough study of the anatomy of this region, we now know that direct extension from the cervical glands into the mediastinal glands is impossible, and, therefore, that inflammations and neoplasms affecting the cervical lymphatics are *local* until they pass into the general circulation.

It is a fact generally accepted that the best treatment of accessible, tuberculous lesions, when they are still local, is that of excision. We know that in cases of tuberculosis of one kidney, a very high percentage can be cured by removal. A similar process in almost any of the abdominal viscera, if diagnosed before too extensive, can be excised, and in the large majority of instances no further trouble will occur. The same is true of tuberculosis of the joints, epididymis, etc.

We are seldom able to positively demonstrate the exact avenue of the infection. Occasionally we may find the bacilli in a decayed tooth, tonsil, or lupus area, but more often the point of invasion cannot be found. It has been shown, experimentally, that cultures of tubercle bacilli swabbed over the surface of the tonsil may leave no trace of their passing through that organ, but will invade the glands draining the tonsil. In our cases we were seldom able to trace back to the source of entrance. Examination of several hundred tonsils showed tubercles in much less than 1 per cent. In 1,000 cases, 2.3 per cent. had positive tuberculous lesions.

From the histories of our cases of tuberculous glands, we find that in 80 per cent. the first enlargement was beneath the upper end of the sternomastoid muscle; in 18 per cent. the first noticeable enlargement was in the submaxillary, submental, or parotid regions. In four cases the first cervical to enlarge was in the supraclavicular group. In each of these four cases the axillary glands were also involved; the infection having presumably entered through an abrasion of the finger or hand. Several cases followed closely upon suppurating otitis media.

Indications for Operation.—If we were to make a routine examination of a great number of children between the ages of four and ten, we would find in the majority of them varying degrees of enlargement of the glands. The pathologic changes in these glands, formerly called *scrofulous* are in part simple hyperplasia, in part tuberculosis. There is no differential diagnostic criterion of the initial stage of glandular tuberculosis. The tissues in these glands predispose and invite tuberculous infection. In this particular type of case our method of treatment has been as follows: First clear the throat of adenoid tissues and tonsils and give such attention as is necessary to the teeth and nose. Assisted by tonics; especially syrup of the iodine of iron, and with out-door living, this treatment has been sufficient to cure most of these cases. The cases that have been perfectly cured seem to be of the hyperplastic type, or, at least, to have been only to a slight degree invaded by the tubercle bacillus. We have occasionally seen a child with caseating nodes. Such cases require, in addition to the above treatment removal of the infected nodes and drainage. If the glands still continue to enlarge and other glands become involved, it will be necessary to do a complete excision to effect a cure. Most of the patients upon whom we have done a complete excision of the glands have been over fifteen years of age; 18 in 649 cases were under ten years. In the presence of a discharging sinus, it does not appear advisable to excise the glands; we have usually enneted and treated by swabbing with equal parts of tincture of iodine and carbolic acid. As soon as the sinus heals, a radical operation can safely be done if necessary.

Pulmonary invasion is not necessarily a contraindication to operation upon tuberculous glands of the neck. In ten instances we have operated upon patients who showed tubercle bacilli in the sputum. Nine of them were greatly improved and several of them were apparently cured by the operation. One developed an acute diffuse tuberculosis after the operation.

The chief objection to radical excision of glands of the neck is the resulting scar. Various incisions have been described and used. At one time the removal of the glands through many separate incisions was recommended. We have found that if we follow the natural creases in the neck and keep the incision as nearly as possible transverse, as suggested by Dowd, we can remove the gland-bearing fascia in one piece with very little scar or deformity resulting. The incision begins a little below and behind the mastoid process, extends straight down along the outer edge of the trapezius muscle, and then curves forward a little below the middle of the neck, and terminates at the juncture of the sternomastoid muscle and clavicle. Through this incision we are able to remove all of the deep descending chain, including the supraclavicular, the anterior, and the posterior groups. If the submaxillary and the submental groups are involved, a second incision running parallel to the lower jaw, two finger breadths below the lower border, will expose the areas and avoid any important structures, e. g., the lower branches of the seventh nerve. In order to prevent the formation of a wide, ugly scar, it is very essential that we turn back the platysma muscle and the skin in each flap. It is also important that the cut edges in the platysma muscle be sewed together before closing the skin. If these cut edges are allowed to retract, the separation will favor the division of the skin scar. In the past it has not been unusual to see a scar on the neck half an inch to one inch in width.

It is our custom to drain these cases through a stab incision; this allows the large incision to heal primarily, and we believe this procedure of valuable aid in getting a good scar. The spinal accessory nerve is the only superficial structure that it is necessary to avoid in operating. In many cases the first gland to break down will be the one beneath the spinal acces-

sory as it comes out of the sternomastoid muscle. In several instances we have known the nerve to be cut by simply lancing this broken-down gland. Usually the nerve will be readily found coming out of the sternomastoid muscle one-half inch above the superficial sensory nerves, or it may be identified as it passes into the outer border of the trapezius at the top of the supraclavicular triangle. If the nerve is accidentally cut it can be sutured at once. It will unite and generally functionate well. If the ends of the nerve are allowed to retract, the deformity will cause a drooping shoulder and an atrophy of the trapezius muscle, which is unsightly and also hampers the use of the arm and shoulder to a considerable degree. We have injured and sutured this nerve on several occasions with no deformity resulting.

In a study of the anatomy of the lymphatics, we observe that tuberclosis invading these glands is likely to be a local process and not an indication of general infection. The entire chain of glands beginning at the subclavian vein and running back to the mastoid process can be removed in one piece without injuring a single important structure. If we consider the glands lying in the celluloadipose tissue (gland-bearing fascia) in the neck as a single organ, and treat the mass in a manner similar to that employed in tuberclosis of other organs, our results will be just as good and we will have done as much for the patient as though we had taken out a tuberculous kidney or removed a tuberculous caecum.

Some years ago it was customary to expect all tuberculous glands to recur. Lymphatic glands and vessels are anatomical structures, and if they are removed we believe are no more likely to recur than a finger is likely to regenerate after it has been amputated. Leaf is alone, I think, in believing that a lymphatic gland will redevelop between the two open ends of lymphatic vessels. In our own cases, we are convinced that the glands which appeared after operation were glands which had not been removed.

During the past fifteen years we have performed 668 operations for complete excision of glands of the neck, 62 operations for partial excision and enucleating, and 24 excisions of tuberculous glands in the axilla in cases which also had

tuberculous cervical glands. In all there were 649 patients operated upon on one side at a time. Of these, 19 have since died of pulmonary tuberculosis, and 9 have died of tuberculous lesions elsewhere. Ten of the patients had pulmonary tuberculosis at the time of operation.

In operating upon these cases, it has been our effort to do a radical and thorough excision of the groups involved. Having made the incision from the mastoid to the clavicle, we reflect the skin and platysma well forward and backward. We do not cut the sternomastoid, except a few posterior fibres of its upper attachment on the mastoid process. The entire posterior border of this muscle is freed and the fascia dissected from it. The dissection is started at the lower angle underneath the clavicular attachment. The omohyoid pulley is exposed and this is the lowest point of the dissection. The glands are all left together in the fascia as much as possible. In some cases the gland-bearing fascia can be dissected with gauze or the finger; at other times, especially if the X-ray has previously been employed, or if considerable resistance has developed, the dense fibrous tissue will necessitate sharp dissection. In freeing the edge of the sternomastoid muscle from below, up about half way we come to the superficial cervical netves, some of the branches of which turn over and across the muscle. These are purely sensory nerves and it is best to sever them and get a good exposure. A numbness which persists for some time occurs after cutting these nerves. One-half to one inch above the sensory nerves the spinal accessory emerges from the sternomastoid muscle and passes obliquely downward and outward superficially through the fascia to the trapezius. In carrying the fascia upward, we should, if possible, save the cervical fascia covering the brachial plexus. Traumatism of the plexus will frequently cause considerable suffering. The thoracic chyle duct as it enters the vein should be avoided. It is not uncommon to see the chyle duct on the right side. We have injured this duct during operation in about ten cases; in several instances it healed without causing trouble. In three cases the chyle drained profusely for several weeks and the patients became greatly emaciated. One of them lost 60 pounds; the duct

eventually closed, however. All the patients made a good recovery. When the spinal accessory nerve is encountered, it should be dissected free from the fascia and held back while the fascia and glands are turned underneath it. As soon as the internal jugular vein is exposed, it is best to partially occlude its lumen in the lower angle by a gauze pack. This will keep the vein full and prevent sucking of air in case the vein is torn. On several occasions we have heard air sucking into the vein, but have seen no bad results from it. The dissection along the entire jugular vein is sometimes tedious, but we have sacrificed the vein in tuberculous cases in only two instances. Some care should be taken to avoid the phrenic nerve lying on the anterior scalenus muscle. The fascia will lead us directly to the styloid and mastoid. Lymphatic glands within the parotid should be shelled out in a manner that will not interfere in any way with the branches of the seventh nerve. Having completed the dissection, if caseous material has soiled the wound, we mop it out with tincture of iodine well diluted with water; or as suggested by Von Eiselsberg, the entire wound may be mopped for an instant with boiling water. We have never seen any sort of an infection following the spilling of caseous material on the fasciae.

Drainage should be provided through a stab incision; we use, preferably, a small rubber tube split spirally. This drain is for the purpose of withdrawing serum and is removed in from 24 to 48 hours. The platysma muscle is carefully sutured with fine catgut, and the skin edges approximated by a subcuticular suture approximately as much of the cut of the skin as possible, giving the appearance of a ridge. In a few days this will smooth down to a line-scar. A rather small, snugly fitting gauze dressing is used. The next day the patient is gotten up and encouraged to move the head freely to prevent any stiffening of the muscles. From this time generally out-door treatment is advised.

In our series of cases we have had no mortality due directly to the operation. One patient died a few weeks after operation of general tuberculosis, and a second died in about three months from diffuse sepsis.—*Annals of Surgery*.

Society Proceedings

AMERICAN PROCTOLOGIC SOCIETY.

Twelfth Annual Meeting, held at St. Louis, Mo.

(Continued from page 644.)

"REMARKS UPON CECOSTOMY AND APPENDICOSTOMY."

By Samuel G. Grant, M. D., New York City

Dr. Grant called attention to the remarkable usefulness of appendicostomy and cecostomy in the direct treatment of bowel diseases and made the point that the latter was preferable in this class of cases and would sooner or later supersede appendicostomy. He also exhibited a new appendiceal irrigator which could be inserted during operation and which permitted irrigation to be started immediately in aggravated cases of diarrhea and intestinal auto-intoxication.

Next he showed a new entero-colonic irrigator, by means of which the large and small intestines could be irrigated separately or at the same time.

He claimed that this instrument is indicated in the treatment of all forms of enteritis, entero-colitis and the different types of ulcerative diseases of the colon and also in the treatment of typhoid fever, intussusception, peritonitis, and parietic affections of the intestine.

This irrigator he maintained was useful as well for studying the contents of the bowel, intestinal feeding, the direct employment of cathartics, enteroclysis and for many other useful and practical purposes.

"SOME OBSERVATION ON THE PATHOLOGY OF MULTIPLE ADENOMATA."

By Jerome M. Lynch, M. D., of New York, N. Y.

Who presented the results of his observations on two interesting cases of rectal multiple adenomata. He hoped that others would be sufficiently interested to record and report their own cases, and that our admittedly scanty information on the pathology of this unusual and serious diseased condition would be materially added to

It was his impression that approximately 46 per cent. of recorded cases of this adenomata terminate in cancer and that the ultimate results are commonly fatal; yet the scientific investigation of these tumors has been so comparatively rare and isolated that our actual knowledge of the causes and conditions is lamentably meagre. It may be said that the pathology is not at all established.

Location: According to Lichtenstein the relative number of instances of these tumors in the different parts of the intestinal tract is indicated in the following arrangement. (the most frequent site of occurrence being in the rectum),—rectum, ileum, colon, ilio-cecal valve and duodenum.

Malignant degeneration naturally affects the parts named in about the same comparatively order of distribution, with the exception of the ileum; this latter being less exposed to insult by reason of the fluid condition of the feces in that region.

It may be noted that these tumors usually manifest themselves in patients between 25 and 35 years old, and the malignant degeneration consequently occurs much earlier on than cancer usually occurs.

About 50 per cent. of the cases collected from the literature were under 35 years of age.

A brief summary of the current theories followed.

Pathological Findings: Several tumors were removed from each case, from the smallest size to the largest. The smaller tumors (that is, those that had recently sprung up) were shown to be composed mostly of granulation tissues, which showed numerous small blood vessels and interstitial fibroblasts. The entire structure is infiltrated by an acute exudate of leucocytes and serum, showing an acute inflammatory process. At the base of the polyp are a few slightly hypertrophied but rather typical glands. The surface epithelium over the polyp shows complete desquamation. The tumor appears to be composed almost entirely of an inflammatory granulation tissue.

Diagnosis—Inflammatory Tissue Polyp: The section through the large polyp, taken from the same individual as the above, but at an advanced stage, showed a growth composed of adenomatous glandular proliferation. There is a narrow peripheral margin in some places about the growth, which shows granulation tissue. The greater part of the growth

about the periphery is composed of simple adenomatous glandular proliferation. Throughout the polyp there is an exudate of serum and leucocytes, the latter showing a predominating number of eosinophiles. There is complete desquamation of the superficial epithelium. Some of the glands in the adenoma appear typical; but the greater number are very much larger than those of the rectal mucosa, and are in a condition of marked hyper-secretion.

Diagnosis—Adenomatous Polyp: These two reports were selected as being typical of what was found in the small and in the well-developed tumor; and go to show an inflammatory starting point, with a later proliferation of glandular tissues, which corresponds, to a great extent, with the findings of Lebert and Schwab. Much more, might have been learned, had the writer been fortunate enough to have secured a post-mortem on the case that died, as he was confident some of the tumors in the upper part of the sigmoid would have shown carcinomatous degeneration. Again, a section through a growth, down into the bowel, might have thrown some further light on the subject.

He hoped to continue the investigation when another opportunity offered.

Reports of cases followed.

Recent Progress in Medical Science

NEPHRITIS FOLLOWING TONSILLITIS.

II. W. Loeb, St. Louis (Journal A. M. A., Nov. 12), says that recent experience has impressed two important facts on his mind; first, acute nephritis is a frequent sequel of tonsillitis; second, this is overlooked in practice by the majority of practitioners. He reports four cases, all physicians or occurring in the families of physicians and presumably therefore carefully observed. In each instance diphtheria and scarlet fever were positively excluded and the nephritis was of the hemorrhagic, non-scarlatina type without pyrexia or edema. In each instance also the tonsillar inflammation was mild in character and the course of the disease unusually slow, and in no case was the nephritis discovered until the tonsillar affection had

disappeared. From these cases and the literature, which is extensively quoted, he concludes as follows: "1. Acute nephritis results from acute tonsillitis far more often than is generally believed. 2. The symptoms ordinarily are not manifested until some time after the inception of the disease. 3. The nephritis is of the hemorrhagic type and differs from that of scarlet fever in that pyrexia, edema, and oliguria are not marked symptoms of the disease. In addition, it follows the angina and is not concomitant as in scarlatina and diphtheria. 4. Judging from the course of the cases reported, there must be many in which a mild nephritis occurs incident to a tonsillitis, which goes on to resolution without patient or physician being conscious of its presence. 5. As each case of laennar tonsillitis may be a potential source of acute nephritis, it is incumbent on practitioners to observe the urine, not only during the height of the disease, but for some time after as well. 6. Spontaneous or idiopathic nephritis is probably often due to a tonsillitis that has not been considered as an etiologic possibility. 7. Chronic affections of the kidney may well owe their origin to unrecognized acute attacks of nephritis of tonsillar origin. 8. Much light may be shed on this subject by a study of the urine in a large number of cases of acute tonsillitis."

A FURTHER REPORT OF THE TREATMENT OF NEURALGIA BY ALCOHOL INJECTIONS.

O. Kiliani, New York, gives a report (*Med. Rec.*, Dec. 10, 1910) of the treatment of a series of sixty-eight cases of facia! neuralgia by injections of alcohol. In every case pain was relieved for a variable amount of time. The author thinks that he has become more skillful in exact diagnosis of true neuralgias, that his technique has been improved, and that he has acquired greater clinical experience. Most of the cases were very severe and of long standing. The average time of freedom of pain is about a year, when a new injection is required. The interval of recurrences increases, and at last the nerve seems to have ceased to be able to carry painful sensations, and a definite cure is obtained. There have been no hemorrhages or other undesirable secondary symptoms.

A NEW THEORY OF ECLAMPSIA.

James R. Mitchell, Fort Worth, Texas (Med. Rec. Nov. 19, 1910), brings forward a theory of the causation of eclampsia, which depends on an intoxication due to the subtraction of calcium salts from the system of the mother. These may come from the bones, causing osetomalacia; from the teeth, causing decayed teeth; from the nerves, causing tetany or eclampsia. The fetus requires calcium even at the expense of the mother's health. Animals suffering tetany after parathyroid removal show decrease of calcium in the blood and tissues; increase of nitrogen excretion by the urine; increase of ammonium output in the urine; excess of ammonia nitrogen relative to urea; increase of ammonia in the blood. These same symptoms are found in eclampsia and in tetany. Eclampsia is tetany plus coma. Toxemia of pregnancy is a picture of the mother's need for calcium. The calcium theory explains many clinical features of eclampsia; the greater frequency in twin pregnancy, and at term; nervous excitability and convulsions; delayed coagulation time of the blood; decayed teeth; urinary findings; associated eczema, and value of the milk diet in eclampsia.

CHLORETONE IN TETANUS.

R. A. Hobbs (Brit. Med. Jour., Nov. 5, 1910) reports a case of tetanus occurring in a man forty-six years of age, in whom, in addition to antitetanic serum, chloretone was administered by the rectum, in doses of thirty to forty grains, with olive oil, two to three times a day. The chloretone was given when indicated by an increase in rigidity. The total amount of antitoxic serum used was 390 c. cm.; and of chloretone, 420 grains. The points specially noted are: 1. The early onset of symptoms and consequent grave prognosis. 2. A marked decrease in the rigidity was noted a definite period after the administration of chloretone, the trismus being relieved in a constant and remarkable manner. 3. The complete absence of convulsions from beginning to end of illness. 4. The relief of trismus enabled the patient to take ample nourishment throughout and thus maintain his strength. 5. The rapid recovery of the case. The author is convinced that this man's life was saved by chloretone, although the part played by the antitetanic serum must not be disregarded.

News Items

Under the new Vital Statistics Law in Kentucky, which becomes effective this month, physicians will receive twenty-five cents for each death and birth returns. Dr. William E. Gray has received the appointment as Registrar for Louisville and Dr. Benjamin W. Smock has been appointed Supervisor over the Registrars in Jefferson county.

The Grand Chapter of the Phi Chi Fraternity, representing 41 chapters of the organization in the United States, held its three-days' convention at The Seelbach in Louisville December 29, 30 and 31. The following officers were elected for the ensuing year: Dr. George W. Leavell, of Louisville, Grand Presiding Senior; Dr. John A. Price, Grand Presiding Junior; Dr. Dunning S. Wilson, Grand Secretary and Treasurer; Dr. Charles W. Hibbitt, of Louisville, and Dr. Charles D. Humes, of Indianapolis, Executive Trustees; Dr. W. E. Finney, of Indianapolis, and Dr. George W. Khran, of Ann Arbor, Committee on National Extension; Dr. T. B. Pearson, of Wilmore, Ky., Editor-in-Chief of The Quarterly; Dr. T. Elmer Grubbs, of Los Angeles, Associate Editor, and Dr. Harold L. Amos, of Boston, Chairman of Directory Committee.

Dr. W. O. Roberts, of Louisville, President of the Southern Surgical and Gynecological Association, delivered the annual address at the meeting of the association in Nashville.

Dr. Minnie C. Dunlap, of Lexington, was appointed one of the physicians to the insane asylum at Hopkinsville, Ky. She will have charge of the female patients.

Dr. H. P. Lynn has been appointed City Physician at Paducah.

Dr. R. L. Fisher, of Paducah, was appointed Meat and Milk Inspector.

Dr. J. Garland Sherrill, of Louisville, is visiting his parents in North Carolina.

Dr. L. S. McMurtry, Dr. J. R. Wathen, Dr. G. S. Hanes, Dr. G. A. Hendon, Dr. J. G. Sherrill, Dr. Irwin Abell and Dr. W. O. Roberts, of Louisville, attended the meeting of the Southern Surgical and Gynecological Society at Nashville.

Dr. Herbert Bronner, of Louisville, has announced that his practice will be hereafter limited to genito-urinary and skin diseases.

Dr. B. F. Zimmerman, of Louisville, has returned after spending six weeks in the surgical clinics of Baltimore and Philadelphia.

Drs. W. O. Harvey and Mrs. Harvey, of Louisville, have been visiting in Mercer county.

Dr. F. L. Carriek and Mrs. Carriek, of Lexington, visited the family of B. F. Harriott in Mt. Sterling.

Dr. J. E. Wells and Mrs. Wells, of Cynthiana, have returned from a visit to Dr. Charles R. Rice in Augusta.

Dr. J. W. Kincaid and Mrs. Kincaid have returned from McAlester, Okla., where they have been visiting relatives for several weeks.

Dr. J. T. Dunn, of Louisville, has returned from a visit to Florida and the Gulf Coast.

Dr. Offutt Blackburn and Mrs. Blackburn, of Versailles, have returned after a week's visit in Louisville.

Dr. Irwin Abell and family, of Louisville, have returned from Lexington, where they were the guests of Mrs. William Harding.

Dr. L. R. Veech and Mrs. Veech, of South Louisville, have returned from a visit to Dr. Veech's sister, Mrs. Mastin, in Davis county.

Dr. J. G. Pursley and Mrs. Pursley, of Lancaster, have returned from Frankfort.

Dr. J. G. Powers and Mrs. Powers have returned to their home on the Bardstown road after a visit in Louisville to Dr. Linsey Ireland and Mrs. Ireland.

Dr. F. Park Ogden and family, of Louisville, have returned from a visit to Mr. and Mrs. C. F. Ogden at Anchorage.

Dr. Sam Foss and family, of Pleasure Ridge Park, attended a family reunion in Louisville Christmas at the home of Mr. U. S. Mills.

Dr. S. D. Wetherby, of Middleton, has gone to Waddy on a hunting trip.

Dr. A. P. Jones and Mrs. Jones, of Oneida, visited Mrs. Jones's parents, Mr. and Mrs. S. C. Barkley, in Nicholasville.

Dr. Martha Patree, of Paris is visiting relatives in St. Joseph's, Mo.

Dr. and Mrs. Solar have returned to their home in Man-nington after a visit to Mr. and Mrs. George Wales in Central City.

Dr. S. T. Seelbot and Mrs. Seelbot, who have been the guests of Mr. and Mrs. G. W. Berry in Mt. Sterling, have returned to Shelbyville.

Dr. F. O. Young and Mrs. Young, of Lexington, left for Pensacola, Fla., to spend the holidays with Admiral Lucian Young and Mrs. Young.

Dr. Loomis Blanton, of Kosmosdale, was the guest of his mother, Mrs. J. W. Blanton, at Maple Terrace.

Dr. Theodore L. Pearson, of Wilmore, Ky., was in Louisville for a several days' stay.

Dr. Leonard Berry and Mrs. Berry, of Lexington, were the guests of Dr. Orendorf in Louisville for the holidays.

Dr. Harry Pryor, of Pewee, has been visiting his sister, Mrs. Charles Morgan, in Lagrange.

Dr. James W. Guest, of Louisville, visited Mr. and Mrs. H. Penrose Vass, in Mobile, Ala.

Dr. J. F. Taylor and Mrs. T., of Louisville, and Dr. and Mrs. Rowan Pryor, of Crestwood, were the guests of Mr. and Mrs. Parker D. Taylor in Lagrange.

Dr. George H. White and Mrs. White, of Louisville, have returned from a ten days' visit to his parents in Evansville.

Dr. George H. Bohannon and Mrs. B., of Louisville, visited their parents Dr. F. T. Bohannon and Mrs. B., in Greenville.

Dr. A. C. Smith, of Evansville, are the guests of Mrs. R. J. McCaslin in Henderson.

Dr. H. T. Morris and family, of Greenup, spent Christmas with Dr. Carnahan and family at Oldtown.

Dr. Richard Morris and Mrs. M., of Evansville, spent the Christmas holidays with Mrs. John J. Millet in Uniontown.

MARRIAGES.

Dr. J. S. Melton, of Shelby county, to Miss Melissa Chappell, Petersburg, Ind., December 26.

Dr. David B. Knox, of Georgetown, to Miss Susan Parish Phelps, of Richmond, Ky., at Lexington, December 8.

DEATHS.

Dr. Wash Miller, at Winchester, Ky., October 27, from angina pectoris, aged 72 years.

Dr. William Perry Bennett, of Daviess county, at the home of his son in Utica, Ky., October 29, from senile debility, aged 89 years.

Dr. William McAfee Hanna, at Henderson, Ky., November 28, from cerebral hemorrhage, aged 73 years.

Dr. Anselm D. Price, at his home in Harrodsburg, Ky., November 11, from nephritis, aged 70 years.

Dr. John W. Blanton, at his home in Pleasure Ridge Park, Ky., December 26, of apoplexy, aged 58 years.

Dr. John R. Holifield, in Mayfield, Ky., December 12, aged 75 years.

Dr. James A. Cullop, at his home in Haskell, November 20, from pneumonia.

Book Reviews.

THE PREVENTION OF SEXUAL DISEASE; By Victor G. Veeki, M.D., with introduction by William J. Robinson, M.D. Cloth. Pages, 132. Price, \$1.50. The Critic and Guide Company, Publishers, New York, 1910.

This subject—the prevention of sexual diseases—as a social problem, has given sociologists plenty to think about in recent years, for the solutions heretofore offered have all proven after due trial more or less disappointing.

The author, in this book, discusses the question forcefully, frankly and without fear of adverse criticism. He admits that it would be desirable to suppress prostitution altogether, but, since that cannot be done, he believes it to be the most reasonable plan to place the “unhealthy trade” under the supervision of the Health Department. He places upon the municipal governments the burden of public instruction. In succeeding chapters the physician's duty and prophylaxis are discussed and the following well grounded conclusions drawn: That the damage done to humanity by contagious sexual diseases is enormous; that the question of prevention has not received and is not receiving proper attention; that hypocrisy and prudery have muddled the question and that the naked truth is our only salvation; that instruction means teaching of truth. The truth must be told to everybody; to the children,

to begin with; and that no one can be safe from venereal infection unless he knows all about it and is willing to use the knowledge to protect himself.

DIAGNOSIS AND TREATMENT OF DISEASES OF WOMEN; By Harry Sturgeon Crossen, M.D., Professor of Clinical Gynecology, Washington University; Gynecologist to Washington Univ. Hospital and Director of the Gynecological UNITED STATES PUBLIC HEALTH AND MARINE HOSPITALS. Engravings. Cloth. Pages, 1025. C. V. Mosby Company, Publishers. St. Louis, 1910. Price, \$6.00.

This is a work devoted exclusively to the diagnosis and treatment of diseases of women. While detailed technical description of major operations have been purposely avoided great care has been taken to show what operations are especially indicated under existing conditions, why they are selected and what they are intended to accomplish; the preparation of the patient for operation and post-operative care of operated cases are given due consideration.

The book is thoroughly practical and so arranged as to present in its text not only the facts of a subject but also their relative importance in the diagnosis and treatment. It is enriched with 744 well chosen illustrations—for the most part borrowed and due credit given. This edition contains two hundred pages of text and fifty cuts more than the first edition, which made its appearance only three years ago. Another commending feature of the book is the chapter on medico-legal points in gynecology, which is sure to interest every worker in this field.

The reviewer, familiar with the earlier work, has no hesitancy in recommending this revised and enlarged edition to the profession as one of the best on the subject that has come to his attention.

THE PRACTICAL MEDICAL SERIES; Vol. VII. Pediatrics, edited by Isaac A. Abt, M.D., with the collaboration of May Marshall, M.D.; Orthopedics, edited by John Riddon, M.D., with the collaborations of Charles A. Parker, M.D.; Series 1910. Pages, 242, illustrated. The Year Book, Publishers, Chicago.

These series comprise ten volumes on the year's progress in medicine and surgery, each volume being complete for the year prior to its publication on the subject of which it treats. Although the publishers have intended the series for the general practitioner, the arrangement in volumes enables those interested in special subjects to buy only the parts devoted to their special line of work.

We are a bit disappointed in this volume, i. e. that part devoted to pediatrics, and do not believe that it comes up to the standard set by others of the series. We miss the parenthetical remarks of the editor. In the section on orthopedics, however, the editorial comments are frequent and helpful. When extracts are made, references are given to the original articles, which makes the book also a fairly good bibliography of recent progress in orthopedic surgery.

THE PHYSICIANS' POCKET ACCOUNT BOOK; by J. J. Taylor, M.D. Pages 212. Leather, Price \$1.00 postpaid. J. J. Taylor, Publisher, 1105 Walnut St., Philadelphia, Pa.

The especial feature of this book is a system of accounts whereby each transaction can be recorded in a moment's time, in plain language, so that it is strictly legal as evidence in court without personal explanation, and so arranged that any patron's account can be ascertained on demand without any posting. There is only one entry of each transaction, and this in such a form that no posting is ever required. It saves time, labor and worry, and insures that your accounts are always up to date, so that you can send statements out every month without any delay and can inform any patron, whenever you may meet him, of the exact state of his account.

The book also has some easy and practical directions for billing and collecting, some excellent business and legal hints, some valuable forms for emergency use, such as "dying declarations," "form for wills," etc., an average medical and surgical fee bill, besides miscellaneous tables, clinical directions, etc. Having a good cash account department and various clinical records—vaccinations, deaths and confinements—it forms a complete year book for the physician's pocket.

THE PHYSICIAN'S VISITING LIST FOR 1911. P. Blakiston's Son & Co., Philadelphia.

This new visiting list with special memoranda for twenty-five patients per week contains valuable data often needed in the sick chamber, such as a two-year calendar, a complete table for calculating the period of utero-gestation, incompatibility, poisoning, the metric or French decimal system of weights and measures, table for converting apothecaries' weights and measures into grams, dose table, giving doses in both English and Metric systems to correspond with the U. S. Pharmacopoeia (1905), asphyxia and apnoea and comparison of thermometers.

It is bound in flexible leather, with a flap and pocket.

ACKNOWLEDGMENTS.

INTERNATIONAL CLINICS; a Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles; Edited by Henry W. Cattell, A.M., M.D., Vol. IV. Twentieth Series, 1910. Cloth. Pages 308. J. B. Lippincott Company, Publishers, Philadelphia and London.

CHOLERA: ITS NATURE, DETECTION, AND PREVENTION; By A. J. McLaughlin, Passed Assistant Surgeon U. S. Public Health and Marine Hospital Service. Prepared by direction of Surgeon-General. Government Printing Office, Washington, 1910

HERPES FACIALIS IN SCARLET FEVER; By J. D. Rolleston, M.D., London. Reprint.

THE FIELD INVESTIGATION OF EPIDEMIC POLIOMYELITIS (What the Health Officer can do toward solving a national problem); By W. H. Frost. Government Printing Office, Washington, 1910.

TRANSACTIONS OF THE EIGHTH ANNUAL CONFERENCE OF STATE AND TERRITORIAL HEALTH OFFICERS WITH THE UNITED STATES PUBLIC HEALTH AND MARINE HOSPITAL SERVICE. Government Printing Office, Washington, 1910. Pages 101.

THE American Practitioner and News.

"NEC TENUI PENNA."

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LEE KAHN, M. D. EDITOR IN CHIEF.

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No. 2

Editorial

A WORD MORE.

Our editorial in the last issue entitled "License to Do Good" has excited discussion by the lay press as well as the profession. This is what we hoped for. The editor has been requested to point out, now that interest is aroused, how relief may be obtained by physicians from the license system of Louisville. As Section 2777 of the Kentucky Statutes governing Cities of the First Class provides, "no ordinance shall be altered or amended in any way except by repealing it," it will be necessary for the General Council to pass an ordinance repealing the present one which licenses attorneys, physicians and dentists and then to adopt another applying only to attorneys and dentists, if the Council deems it proper that the latter professions pay license fees. Anyone may procure consideration by the proper officials by clipping from this edition the following ordinance and persuading one of the thirty-six city Solons to introduce the measure, viz.:

Be it ordained by the General Council of the City of Louisville:

That the ordinance approved October 25, 1901, entitled "An ordinance licensing practicing attorneys, physicians, surgeons and dentists" be, and it is, hereby repealed.

Original Articles

THE PRESENCE OF HOOK WORM IN KENTUCKY PEOPLE.

BY VERNON ROBINS, M. D.,
LOUISVILLE, KY.

Chemist and Bacteriologist to the Louisville Health Department.

Responding to Dr. Dunn's clinical report and demonstration of hook worm disease in a patient from Georgia (reported in the Kentucky State Medical Journal, 15th May, 1910), I declared that there was no reason to believe that the State of Kentucky was free from this disease, and that I would do my share to determine it.

Institutions sometimes afford the best opportunity for medical study on account of the concentrated material, large numbers, and often representing a wide area of country. A large and admirably conducted institution, drawing its inmates, principally children, from all over the State, was selected for this material investigation at the close of March, 1910. The officers in charge were told that this work about-to-be started would disregard clinical symptoms entirely and blood tests as well, and deal only with feces, and that the examination would be searching enough to positively identify anyone that had the parasite in the bowel, and that every one of the inmates would be examined, and that hook worm subjects would be treated and re-examinations made until cure was obtained. The treatment for the diagnosis and cure of the disease was that recommended by Dr. Stiles. In this institution the inmates always wear shoes, and each child has a bed to itself. Two hundred and eleven individuals were examined in this way, developing the presence of hook worm in thirty-six of them, or an average of 17 per cent., and distributed over fourteen counties, viz. Lawrence, Morgan, Johnson, Floyd, Wolfe, Estill, Breathitt, Clay, Laurel, Whitley, Wayne, Metcalf, Nelson and Butler. The oxyuris vermicularis was found in 17½ per cent. of all cases. The taenia nana (eggs) were found in nearly 2 per cent. of all cases. The

trichiura trichiuris was found in nearly 2 per cent. of all cases. The *ascaris lumbricoides* was found in nearly 1 per cent. of all cases. More than one variety of intestinal parasite was found in nearly 4 per cent. of all cases. In one case there were found the eggs of the hook, whip and pin worms. Many bloody bowel discharges showed only pin worms. The hook worm itself, in mature form, was found only in very few instances.

The nurse kept an index made of the names of the inmates and a serial number attached to each. The specimens from each patient, which were sent to the laboratory, bore only the number. The examination-report had to go back to the nurse for personal identification. Very great help was rendered me in these examinations by my assistant, Mr. Fred. W. Kirk, and the institution's nurse gave intelligent and untiring co-operation.

The following is a brief statement of the individuals found with hook worm:

No. 1. Female, 6½ years old, admitted October 19, 1908, from Laurel County. Blood color good. Does not compare favorably in mental or physical development with the children of the same age and environment.

No. 27. Sister of above, 8 years old, admitted October 19, 1908, from Laurel county. Has had trachoma and enlarged tonsils, adenoids, and German measles. Lacks energy, poor memory, looks healthy.

No. 11. Male, 7 years old, admitted October, 1906, from Breathitt county, intelligent, under-sized, looks healthy, has had trachoma.

No. 52. Brother of above- 8½ years old, admitted October, 1906, from Breathitt county, has had trachoma, scabies, measles. lazy but intelligent.

No. 16. Male, 4 years, admitted October, 1907, from Wolfe county, has had trachoma, adenoids, enlarged tonsils. Color bad, good mind, alert.

No. 17. Male, 6 years old, from Wolfe county, received August, 1909. Healthy looking.

No. 29. Female, 10 years old, admitted May 27, 1909, from Wayne county. Has had trachoma, German measles, malaria, poor memory, large for age, looks healthy.

No. 50. Male, 10 years old, admitted January 29, 1907, from Laurel county, has had trachoma, enlarged tonsils, scabies and German measles. Blood color bad. Often sick, large for age.

No. 55. Male, 11 years old, admitted August, 1908, from Wolfe county, industrious, intelligent, has had malaria, la grippe, complains frequently of feeling badly, color not good.

No. 64. Female, age 9, admitted May, 1908, from Nelson county, has had trachoma, malaria more than once, tonsils and adenoids removed, measles, lively disposition, color fair.

No. 69. Female, age 11, admitted September, 1909, from Laurel county, has had trachoma, tonsils and adenoids removed, la grippe, is dull, very fleshy, color bad.

No. 80. Male, 8½ years old, admitted October, 1906, from Floyd county, father and mother died of consumption, has had measles, health fair, quick, studious, color not good.

No. 71. Female, ten years old, admitted November, 1909, from Clay county, father died of consumption, very thin, looks unhealthy, color bad.

No. 74. Male, 11 years old, admitted January, 1910, from Whitley county, blood color fair. Has had trachoma.

No. 112. Female, 13 years old, admitted October, 1907, from Wolfe county, has had trachoma, scabies, average mind, blood color good.

No. 113. Female, 11 years old, admitted October, 1907, from Wolfe county, bright, has had trachoma, color good.

No. 91. Male, 9 years old, admitted October, 1907, has had trachoma and scabies. From Wolfe county. Blood color fair.

No. 163. Female, 15 years old, admitted October, 1907, from Wolfe county, has had trachoma, blood color good.

Nos. 16, 91, 112, 113 and 163 are brothers and sisters. measles, malaria twice, la grippe, mentally dull, mother died

No. 115. Female, 11 years old, admitted October, 1903 from Lawrence county, has had trachoma, running ear, mumps, of consumption, color fairly good.

No. 155. Female, 14½ years old, admitted May, 1903, from Laurel county, mother died of consumption, has had measles, mumps, la grippe, German measles, malaria several times. Slow mentally, industrious, very thin, blood color bad.

No. 160. Female, 13 years old, admitted July, 1905, from

Breathitt county, has had trachoma, strabismus, scabies, pediculosis, father died of consumption, unhealthy looking, blood color bad.

No. 94. Male, 10 years old, admitted March, 1907, from Lanrel county. Dull, has had trachoma, blood color good.

No. 84. Male, 11 years old, admitted Jannary, 1910, from Whitley county. Has had la grippe, mind good, blood color good. Is brother to No. 74.

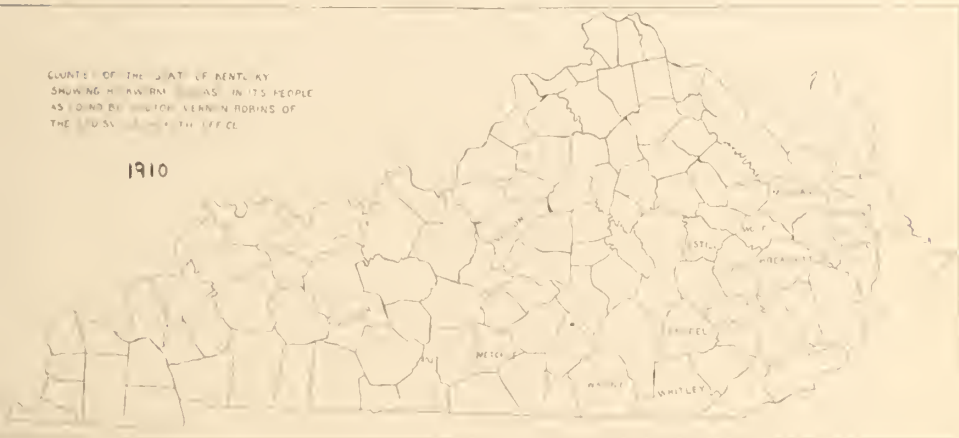
No. 100. Male, 8 years old, admitted May, 1909, from Morgan comty. has had trachoma, malaria repeatedly, over size, dull, blood color fair.

No. 101. Male, 10 years old, admitted May, 1909, from Morgan county, has had trachoma and malaria, dull, color bad. Nos. 100 and 101 are brothers.

No. 104. Male, 9 years of age, admitted March, 1910, from Estill comty, has had adenoids, bright, healthy looking.

COUNTIES OF THE STATE OF KENTUCKY
SHOWING HOW MANY YEARS IN ITS PEOPLE
AS FOUND BY HISTORY LEARNIN ROBINS OF
THE HOUSE OF THE EFFECT

1910



No. 139. Male, 13 years old, admitted May, 1902, from Metcalfe county, has had trachoma, adenoids, mumps, measles, ring worm, father and mother died of consumption, and three sisters also died of consumption. Dull and delicate.

No. 149. Male, 14 years of age, admitted August, 1908, from Wolfe county, father died of tuberculosis, has had tonsils and adenoids removed, German measles, dull and lazy. Blood color bad. Nos. 55 and 149 are brothers.

No. 150. Male, 11 years old, admitted March, 1906, from Johnson county, has had trachoma, German measles, bright has peculiar yellow skin.

No. 201. Male, 14 years old, admitted October, 1906, from Morgan county, had pneumonia and la grippe, bright, blood color good. Had not left the institution since he came there.

No. 183. Male, 14 years old, admitted October, 1903, from Lawrence county, mother died of consumption, has had mumps, typhoid, measles, malaria, three attacks of chorea, bright, blood color good. Nos. 115 and 183 are brother and sister.

No. 136. Male, 13 years old, admitted May, 1907, from Morgan county, blood color good.

No. 145. Male, 13 years old, admitted October, 1908, from Floyd county, blood color good.

No. 175. Female, 15 years old, admitted October, 1908, from Floyd county, delicate. Nos. 145 and 175 are brother and sister.

No. 2133. Female, 16 years old, admitted September, 1903 from Butler county. Delicate.

No. 240. Male, 14 years old, admitted September, 1903, from Butler county. Delicate. Nos. 213 and 240 are brother and sister.

All inmates of this institution are white, and many of them once a year make a short visit to their home locality.

RESUME.

Examination for admittance of children into orphan asylums, etc., should include a search for intestinal parasites, that the individuals infected may be promptly relieved of them.

Inmates that go on a vacation to their old home locality should wear shoes constantly, or be re-examined on their return.

In view of the wide prevalence of tuberculosis in this State, overcoming hook worm anemia is of prime importance in battling with the white plague.

Individuals who are in good general health, but are carriers of the disease, require the fecal examination before that fact can be known, and such examination requires great care, lest the parasite, on account of few numbers, be overlooked.

It is the belief of the writer that Jefferson county and the western part of Kentucky will also show the disease if the work is more largely prosecuted.

TREATMENT OF PNEUMONIA.*

BY EDWIN T. BRUCE, M. D.,
LOUISVILLE, KY.

Pneumonia, because of its exceeding prevalence, short duration, and frequent fatal termination commands our most careful consideration. It is equally serious in patients of all ages and in all walks of life. According to the United States Census Bureau's mortality report, in the area covering slightly more than half of the United States, there was 70,033 deaths recorded due to pneumonia. In this same area the number of deaths from tuberculosis was 70,040—only seven more than from pneumonia.

It is a well known fact that the mortality of pneumonia has been steadily on the increase. Can this increase be satisfactorily explained? Has the type of the disease become more severe, or has its prevalence and fatality increased, because of local conditions favoring its generation and development, or has the treatment of this dread disease known no advance? It is undoubtedly true that the type of pneumonia is more severe than in former years and it is also true that the congested conditions, that exist in all large cities render the incubation of any disease more feasible, and these conditions are peculiarly conducive to the breeding of pneumonia. Poor ventilation, overheated houses, indoor employment, sedentary occupations these are the surroundings of the very large majority of cases who are attacked by pneumonia. Another reason for its great mortality is that too frequently a physician is not called until the disease, because of its rapid course, has so far developed as to render medical aid unavailing.

Science recognizes these unfavorable conditions of environment. In many of our large hospitals the open air method of treating pneumonia is employed. This method has the highest professional indorsement, and the best results are claimed for it. In the children's hospital and other hospitals in New York City, the patient constantly breathes fresh air—not air that has been artificially heated, but fresh out-of-doors atmosphere; the body, of course, is kept warm by clothing the patient

* Read before the Louisville Clinical Society

suitably to the temperature, precaution being taken to prevent chilling. The percentage of mortality has been largely diminished by this method. It is impracticable to employ this method in many cases in private practice but should only where a competent nurse is in attendance. Good nursing is indispensable in pneumonia, the prompt and implicit obedience of the physician's instructions are absolutely required. Where the open air method cannot be resorted to, the greater must be the care in nursing and the closest attention to every phase of the disease must be given by the physician.

It is well to start the treatment of pneumonia with calomel, given in small doses often repeated, following this with a saline, preferably Epsom salts, and to repeat the calomel during the course of the disease if necessary. One of the first things to be done is as already indicated, to see that the patient has plenty of fresh air. The fever unless there be nervous symptoms present, such as marked restlessness, or delirium, is not necessarily an indication for special treatment. When these symptoms exist they can be treated with benefit by enveloping the chest with sheets wrung out of water at a temperature of 50 degrees, continuing the application for ten minutes. This also has a tendency to relieve the congestion. Other local applications to the chest are beneficial only in controlling pain. The diet should be liquid, composed of milk, eggs, albumen, water and broths. The patient should be urged to drink plenty of water.

When the cough is a distressing symptom, codeine given in the beginning in one-fourth grain doses every four hours has a beneficial effect. At times the use of heroin in one-twelfth grain doses aids a distressing cough. The insomnia in pneumonia is a condition which should not be allowed to continue for any length of time, on account of the distressing nervous symptoms that are liable to attend this. Trional, and veronal are the least harmful hypnotics and should be given in ten grain doses.

The pulmonary oedema in pneumonia is best treated, I think, by fifteen to thirty minim doses of 1-1000 adrenalin chloride solution given hypodermically, every fifteen minutes for five doses, then every half-hour for four doses; cupping the chest is also indicated, and is of marked benefit. Oxygen

is also of value, but it still holds its place as the forerunner of the end.

As we all know, the most distressing condition attending pneumonia is that of cardiac failure. The first indication of systolic weakness and failure of arterial tonicity, leads to the administration of cardiac stimulents. The four principal ones are alcohol, strychnine, digitalis, and camphor. Alcohol, and camphor are the most important cardiac stimulants and the ones on which the greatest reliance is placed. Brandy or whiskey is given in one-half ounce doses at intervals, varying from every hour to every four hours, according to indications. These indications are small incompressible, rapid, feeble, and often intermittent or irregular pulse, associated with absence of the first sound and diminution of apex beat.

Strychnine: When we remember the physiological action of this drug, how it stimulates the heart, and tones up the arterial system, by its direct stimulant action on the vasomotor centers, and not like alcohol, and digitalis by its action on the heart muscle and arterial walls, we find an explanation of its effectiveness. It whips up the heart, one might say, from its powerful nerve center. Strychnine is never followed by the secondary nerve depression, so often seen after alcohol. There are two indications, which especially call for its use—first, when alcohol is not able to hold up the heart, it should be used as a reinforcement; second, when there is evidence of pulmonary oedema and cyanosis, it should be given hypodermically in one-twentieth grain doses. All alcoholic cases especially respond to the action of this drug. Digitalis is indicated when cardiac dilation puts in its appearance and there is marked failure of compensation. Saline injections into the rectum are of marked benefit. Especially in alcoholics and in cases in which nutrition is failing. Eight ounces of normal saline thrown into the rectum, about once in four hours, is well retained. I think that saline enemas would be of benefit in every case of pneumonia, — they can do no harm.

Permit me to make a plea for the more general use of morphine hypodermically in the early stage of the invasion, a stage in very many cases accompanied not only by the shock to the nervous system, from a sudden and overwhelming toxemia,

but also accompanied by a distressing pain often amounting to the agony of a pleurisy, associated with the development of the pneumonic process. The shock to the nervous system in many cases is intense. Patients generally rally from this condition, but often with a marked cardiac weakness. I believe that, if we made a routine practice of giving cases presenting these symptoms two or three full doses of morphine, we would not only relieve the pain, but would minimize the nervous shock, and certainly, remembering how morphia sustains the heart, we would start our patient on the course of the disease in a very much better condition. Morphia later in the disease is seldom required and should be administered guardedly.

Quinine has been recommended by some practitioners in doses of from fifty to sixty grains often repeated, and the advocates of this treatment claim that it is a specific in these conditions. We take issue against this claim for the following reasons: Quinine in doses of from fifty to sixty grains, has an irritating effect on the stomach, which is liable to cause distressing symptoms, such as nausea and vomiting. In being eliminated quinine has an unfavorable action on the kidneys, causing an irritation of these organs, and the subsequent bad results of a condition of this kind.

High temperature in pneumonia is not so serious a matter as the cardiac failure which so often proceeds fatal termination of the disease. It is to avoid this condition our efforts should be directed. Because of the short duration of the disease, if it is possible to keep the heart strengthened against attacks of depression, this great danger may be avoided. A temperature of 103 degrees to 105 degrees may be an evidence of the resisting powers of the patient, whereas a long subnormal temperature indicates the decrease of vitality. Pneumonia is not a long seige, but a sharp, short battle and all the strength of the patient is taxed to the uttermost; therefore, care should be exercised not to give great quantities of medicine, but on the contrary only such remedies as are useful in enabling nature not only to resist but to conquer.

ARE THE INCURABLES CURABLE?

BY CURRAN POPE, M. D.,
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Medical Superintendent "The Pope Sanatorium" etc.

The inconsistency of the title demands explanation. A curable person is one who can be cured or healed, hence an incurable is one who cannot. How can an incurable become curable? Because of changed conditions and methods. The definition of an incurable disease, has, until late years, been limited to the question as to whether the individual could be cured by hygiene, diet, surgery, or medicine, hence many were embraced under a term that does not by any means convey the correct idea. The following case has had many experiences, tried many doctors and has been told by many expert diagnosticians and therapeuticians that "her case was incurable," that everything had been tried and that she must learn to bear her burdens, be they heavy or light. The case seems of sufficient interest to "point a moral and adorn a tale." It is a plea for a more rational employment of therapeutics other than the purely medicinal. About four years ago there came under my professional care, a German woman, fifty-one years old, who came to this country when she was twenty, married a prosperous saloon-keeper of her nationality, and during her life had all of the advantages that accrue from being prosperous and well-to-do. She is the mother of one child who is living, and who has also three children, all healthy, no tubercular, mental or cancerous progenitors. During her life she has had little sickness but has suffered from measles, one or two attacks of malaria, grippe, but no other diseases. She has been a good, honest, hard-working German woman.

About eleven years prior to the time I saw her, and about three or four years before the onset of the menopause, she began to have local patches of eczema; at first in the groin, later over the hips, finally on the cheeks and the marginal edges of the scalp. She passed through the menopause fairly well, but suffered greatly from nervous manifestations, especially worry. When she was forty-seven she lost her husband, became melancholic, irritable, lost her interest in life, and was frequently hysterical. A few weeks after his death

the eczema began to break out over her entire scalp, the greater part of the cheeks, the left mammary gland, the groin and upper part of the leg. The itching was intense, the suffering keen, and added to this was the first manifestation of a kidney lesion, the urine showing albumin and casts. This state of affairs grew worse and worse. The loss of rest, the worry over the death of her husband, the urinary trouble and lack of elimination began to deplete a strong woman, and she began to develop intense insomnia and a melancholic condition. The phobias were superadded. She feared to go out alone, feared being on the street, feared she would drop of heart-disease, some physician having suggested that she had an hypertrophied heart. In this condition, she came into my hands.

As far as she could remember, her childhood was uneventful, her infantile amnesia being marked. She remembers her simple peasant life until the great event of her life, the coming to America. She came directly to this city and at the age of twenty married. In two years her daughter was born. Puberty at or about the twelfth year was normal, free from pain and discomfort, continuing so all her life. Her marriage was "happy" and her sexual life normal, both as to desire and practice. Always wanted more than one child, but as she could not bear any more children, was glad her daughter married early in life, as she finds her greatest happiness in her grandchildren. Was always of a quiet, happy, passive disposition, but is now very emotional. She is of medium height, thin and pale, rather looking the part of one suffering from renal disease. Some swelling of the ankles. Lungs were normal, respiration 24 sitting and 28 standing, expansion fair, murmur good. The heart was moderately hypertrophied, with no evidence of any lack of compensation. The second sound was loud and snappy. Blood pressure (wide cuff) showed systolic 200 m. m.; diastolic 160 m. m.; pulse pressure 40. The tongue was slightly coated in the center, red on the edges, moist and tremulous. Marked hyperchlorhydria and acid gastritis, with atonic retention of food, caused considerable discomfort and seemingly aggravated her nervous and mental condition, rendering her extremely peevish, irritable and depressed.

She was anemic, intensely so, the hemoglobin being very low, 35 per cent. Fleischl, the red corpuscles irregular and pale, in the fresh specimen, a marked leucocytosis of the polynuclear variety was present. The urine passed in twenty-four hours measured 1800 c. c., spec. gravity 1010, pale; decreased urea, albumin, indican, vesical epithelium, a few hyaline, casts, cylindroids, and oxalate of calcium crystals.

We had to deal here with a marked psycho-neurosis; an anemia; commencing arterial sclerosis; an hyperesthetic gastritis, with atony and cirrhotic kidney. She was separated from home and friends. Her life from a hygienic standpoint was governed by a partial rest cure, with the shutting off of all meats. The over-medicinal medication, both internal and external was stopped. Basham's mixture was all that was given at first, later other iron and some arsenic preparations were employed. The bromides, choral and strong hypnotics were given up. Occasionally an alkali when the gastric burning became too severe. She was given static electricity twice daily, morning and evening, the static breeze and wave current being employed, at both seances. The high frequently vacuum method, varied with the effluve from the multiple brass point electrode and followed by auto-condensation was employed once daily. No attempt was made at that time to investigate the origin of the psychosis, as it was (to the writer) a pre Freudian time.

A method of explanation and persuasion, a "moral orthopedia," to quote Dubois, was carried on in conjunction with the physio-therapeutic, rest hygienic and medicinal measures.

The eczematous patches on the body, limbs and face began to first show the effect of treatment. It was remarkable to see how rapidly these patches disappeared. The scales off the scalp, the places on the groin dried up, and if any were a little stubborn, the application of a simple unguent soon removed them, which when followed by another application of the high-frequency current, completely healed the patch. At this time there was marked increase of urea elimination. She began at once to put on flesh, a good sign. Whenever these chronic, anemic patients begin to put on flesh, we can always feel that we are reaching the metabolic processes that in the end will

correct the perverted conditions of the body. The depression lessened and as the gastric and cutaneous irritations ceased, she both ate and slept better. As soon as the cutaneous surface permitted she was given general massage and hydrotherapy, the prescription of which at the end of four weeks marked a more active life. The incandescent electric light bath, to perspiration followed by the circular needle or spray bath at 104 degrees F. for one minute reduced daily to 60 degrees for $\frac{1}{4}$ minute, was employed, particular care being taken to see that good reaction was secured. A short time after we began the use of hydrotherapy there was a marked change in the urinary findings.

It has always been most interesting to me to note the changes in the condition of the arterial pressure, in the quantity of albumin and the presence of casts in the urine, that follows the use of the electric light bath, hydrotherapy, static and high-frequency treatments. These findings are generally believed to point to organic changes in the kidney of a serious nature.

While the action of two of these measures is to raise the arterial pressure, still the high frequency treatment was powerful enough to bring down the pressure. This patient was doing well, all that could be asked, but at the end of two months, having more confidence in her opinion than in that of her medical advisor, she discontinued the treatment, with the result that inside of four weeks she had a relapse. We recommended to take occasional courses of blood pressure reducing was to remain until the cure was permanent. This she did. Four months additional treatment was taken, resulting in complete functional recovery. Upon dismissal she was recommended to take occasional courses of blood pressure, reducing treatment, but the advice has not been followed. I have seen the patient from time to time during the past six years. She remains as she says, "entirely well." The "incurable" was "cured;" sufficient time has passed to test the effectiveness of the result, and justify the inconsistency of the title.

ACUTE GASTRO-ENTERITIS.*

BY S. B. ROBINSON, M. D.,
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This is the diarrhea which occurs each year when hot weather returns. The symptoms are due mainly to absorption of toxins resulting from the putrefactive changes in stomach and bowels. This form of diarrhea may begin as an acute indigestion and result in ileo-colitis. As soon as hot weather begins, usually in June, and remains hot for several days, then this disease begins and extends through the hot months until cool weather sets in.

It is found more often in infants artificially fed, or those partly breast fed and partly artificially fed. This is doubtless brought about because of bacterial development together with improper feeding.

The bacteria may be carried in with the food and develop diarrheal diseases, or the bacteria that are normal in the intestines may become pathogenic because of changed condition in intestines, usually due to disorders of digestion. Toxic substances have been found in the milk which is given to children and who are suffering from severe symptoms resembling cholera infantum. Improper feeding is the most important factor in the causation of summer diarrhea.

Gastro-entrie intoxication is divided into two forms. The simple gastro-entrie intoxication, and cholera infantum.

The mild cases of gastro-enteric intoxication are usually preceded by symptoms of intestinal indigestion, the stools gradually becoming more frequent; they are thin, green, yellow or brown, and contain undigested food, soon becoming of a foul odor and containing mucus. The infant loses weight and becomes pale and fretful.

With proper feeding and treatment these cases usually will recover in from one to three weeks. However we may see these mild cases develop severe symptoms following errors in feeding or a few days of very hot weather.

We may also find in some of them follicular ulceration developing and the case becoming one of ileo-colitis and the illness continuing until cool weather, sometimes better and sometimes worse.

In other cases the symptoms develop rapidly, temperature rises to 102 or 103 degrees F., sometimes higher, the infant seems in distress or may be in a stupor, eyes sunken, pulse weak, skin hot and dry, or convulsions may develop.

There may be great thirst, vomiting may be an early symptom, it is first of food, retching continues, even after the stomach is empty. The discharges from the bowels are first feces, then flatus, and then yellow material with an offensive odor.

Or the stools may be grey, green or brown, with colicky pains and great amount of gas passing together with an offensive odor.

If the patient has a good constitution and is properly treated a few days may see him beginning to improve and going on to rapid convalescence.

On the other hand, if the infant is delicate there may be no reaction from the severe symptoms and death may take place in two or three days, occurring from coma, convulsions or exhaustion. Or we may see the case take on the form of ileo-colitis with fever and mucus stools.

After the symptoms are all better and we think the child out of danger, any indiscretion in feeding may bring about a relapse with all of the intensity of the former symptoms and may result fatally in a short time. The giving of milk too soon may be the cause from bacterial development.

In the prophylaxis of these troubles it is advanced by all writers that the mother should be urged to nurse her infant unless there exists some constitutional contra-indication; also that weaning should not take place in hot weather.

In artificial feeding great care is necessary to feed properly. Especially is it necessary to have pure milk and to avoid too frequent feeding; overfeeding also is to be avoided. Let all water be boiled that is to be given to the baby.

In the treatment of these cases the first thing to do is to clean out the digestive tract by giving oil, salts or calomel.

My preference is for oil; I also keep ready a mixture of Rochelle salts, Liq., lacto-pepsine and glycerine and give a teaspoonful every hour until bowels are thoroughly empty.

All milk food of whatever kind should be stopped, and boiled water given; if this is retained we may then try egg water or dextrinized gruel. If these are vomited absolute rest of the stomach is to be advised.

After twenty-four hours the nursing infant may be returned to the breast, at about hour-hour intervals and allowed about one-fourth the usual quantity. Between the nursing barley water, whey or egg water may be given, and in three or four days infant may be returned to breast in the usual manner.

Artificially fed infants should have barley water for three or four days, or both, or some of the malted foods, then milk may be added tentatively to the barley water.

After the bowels are emptied bismuth, sub-nitrate (5-10 grs. every 4 hours) should be given, tannalbine as an astringent (2 gr. every 2 hours to a one-year-old child).

Opium is not admissible until the bowels are thoroughly empty, nor is it to be given when there is present cerebral symptoms or high fever; alkalies are indicated in the acute stage when acid fermentation in the stomach, and acids in later and sub-acute cases. Stimulants, as whiskey or brandy, are required in a great number of cases.

Cholera Infantum is another type of summer diarrhea or gastro-intestinal infection of great virulence and symptoms come on rapidly, resembling Asiatic cholera. The symptoms are the result of absorption of toxins which may exist in the milk before its ingestion. Vaughan has demonstrated that improperly kept milk may be sufficiently toxic to produce choleric symptoms in animals.

Pasturization or sterilization make no change in these toxins. Shiga's bacillus has been found in the stools of a great number of these cases.

Cholera infantum may begin as an attack of acute indigestion, or begin suddenly with severe vomiting and copious discharges from the bowels, with high fever and rapid prostration.

The temperature may be high from the beginning or it may be but slightly elevated during the entire attack. Food is vomited promptly, and later not even water or other fluid will be retained.

The discharge from the bowels are yellowish, brown or green and fecal in the beginning, usually painless, rapidly becoming more and more watery, at last consisting entirely of serum.

Loss of weight is rapid and prostration is great almost from the outset.

In early stages the child cries or moans, and is fretful, later there is stupor, coma or convulsions. The pulse is rapid, becoming weak and irregular, finally almost imperceptible.

There is great thirst, fluid is taken both avidly even though it is vomited as soon as swallowed.

When the heart's action can be sustained and vomiting and purging gradually subside a favorable termination may be looked for, though convalescence is never very rapid and after improvement has begun, the case may relapse and terminate fatally. If the case goes on to collapse the child becomes somnolent and apathetic, pulse thready, extremities cold and cyanotic, eyes half closed, sunken and the cornea covered with shreds of mucus, the pupils fail to react to light, stupor comes on and death supervenes, sometimes preceded by retraction of head and convulsions.

These nervous symptoms constitute the hydreencepholoid state of Marshall Hall. Cholera infantum is one of the most fatal diseases of infancy. The mode of onset and the previous health of the infant will be of some value in forming a prognosis.

To eliminate toxins from stomach and intestines wash out the stomach and irrigate the bowels.

If I found active vomiting and purging with no stupor or drowsiness I should use hypodermatically morphine and atropine (morphine gr. 1-50 and atropine gr. 1-100) and repeat in an hour if vomiting and purging is severe: aromatic sulphuric acid one minim in water every hour may be given as an astringent when the stomach will retain it. In order to supply the blood with the fluid that has been drained off the

use of normal salt solution by hypodermoclysis should be used.

Surround the patient with hot bottles if symptoms of collapse ensue; if peripheral temperature is low and central temperature high the child may be immersed several times for a fraction of minute in partly hot water to bring about reaction and bring blood to the surface. If fever is present cold baths with friction are indicated.

Camphor, brandy and digitalis are used hypodermatically as stimulants.

When recovery takes place give white of egg or barley gruel for several days until it is safe to return to milk.

The first years of life are biologically speaking the most important ones we live. The organism has stamped on it the possibilities of future vigorous life or of early decay. At this early period when growth and development are so rapid proper nutrition must play the leading part. The best nourishment for the baby comes from the mother.

In artificially fed infants how to get clean fresh cow's milk is the important question. The ingredients of the food are protein, fats and carbo-hydrates and mineral matter or salts. In addition to these, water is a very important ingredient.

The protein builds muscular tissue, fats and carbo-hydrates are heat producers, and mineral matter hardens the bones.

The greater part of human digestion is performed in the intestines.

The action of saliva in starch and the action of gastric juice in disintegrating the connective material of meat and vegetables are preparatory to intestinal digestion. Excessive quantities of fats in the stomach retard the digestion of proteid by coating it and also retard the secretion of gastric juice.

Excessive quantity of sugar causes the stomach to secrete an unusually acid gastric juice which interferes with digestion. These two fats are valuable in infant feeding. It is well known that cow's milk changes in the stomach into a solid which shrinks into a leatherly, stringy mass; while in woman's milk forms finely divided curds; woman's milk is richer in lecithin than other milk and lecithin forms a large part of the brain and nerves. Nearly all of the changes that take place in

milk that is kept any length of time are due to the growth of bacteria.

Fresh milk contains several species of bacteria; milk sours because bacteria attack the sugar of the milk and convert it into lactic acid, these bacteria may be said to be harmless, for sour milk is wholesome.

If milk remains warm after milking bacteria begin to grow at once.

When bacteria that cause souring are not present the species that attack the fat and proteid grow and produce rancidity of fat and many changes in proteids; sometimes poisonous products are produced by the action of bacteria on proteids.

In milking the first few jets should be thrown away, thus getting rid of bacteria at end of the teat. Dirt and manure are found on the cow's body and cause the most damage to milk, the bacteria therefrom decomposing the proteid mostly. These can be kept out by keeping the cow clean; stable dust also contains an enormous amount of bacteria, this can be kept out by sprinkling the stable and wiping the cow's body with a damp cloth.

The milker should have clean hands and the milk pails should be perfectly clean; no one who is nursing an infectious disease should be allowed to milk.

If milk is placed upon ice and cooled to 45 degrees this stops the growth of bacteria. With the proper care of the cow, with a milking place clean and free of dust, having clean utensils to milk in, with clean hands and milk placed immediately upon ice to reduce temperature to 45 degrees or below we in the country ought to have milk that is perfectly safe for the baby.

Pasteurizing destroys most of the bacteria in milk, but it should be immediately cooled to prevent development of bacteria that would attack the proteids of the milk and it is thought that the product of these bacteria are poisonous.

In feeding the infant we must consider nutrition and development of the digestive tract together; nutrition coming first, and in cases of poor digestion we are justified in using anything that will sustain the infant until normal digestion

is re-established; then we should change the food so as to cause proper development.

Cow's milk is intended to nourish the calf that grows more rapidly than an infant, therefore containing much more protein than human milk.

This protein is intended for digestion in the stomach and forms solid curds which cannot readily leave the stomach. In the infant digestion takes place principally in the intestine and human milk leaves the stomach easily.

Cow's milk is diluted to reduce the quantity of protein and also to modify its character. I prefer barley water and use mostly the dextrinized as a diluent for cow's milk. Cow's milk should be diluted until it will agree with infant.

In a short time begin to lessen the diluent, and determine the amount of nourishment in a given quantity of diluted milk, especially the protein; one ounce of sugar should be added to twenty ounces of food mixture; after milk has been prepared it should be put into separate nursing bottles and kept on ice, or it may be pasteurized and then placed on ice.

Sterilizing is not used now as much as formerly, as the taste is greatly altered and chemical changes are produced.

The Sloane Maternity milk-set consisting of a measuring glass graduated to twenty ounces and a dipper holding one ounce is admirable for preparing milk for the infant. The strength of the food may be increased or lowered according to the ability of the infant to digest the food or according to age.

It will happen occasionally that the infant will not digest the cow's milk no matter how it is diluted. The mixture producing fretfulness and symptoms of indigestion, in this condition it is probably best to put the infant on condensed milk for a time, diluting with dextrinized gruel, or peptonizing milk may be tried.

If the above are not tolerated we may then try whey or white of egg.

We must put the infant upon milk as soon as possible, giving it in strength sufficient to insure proper proportion of fats (3 to 5) proteid (1-2) and sugar (5 to 8), that is the mixture should consist of one-third to one-half top milk.

OBSTETRICAL FEES.

BY M. CASPER, M. D.,
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Most all physicians are agreed that the fees in obstetrical cases are entirely inadequate; compared to the fees in other cases of practice these fees are ridiculously small.

The fee for attending obstetrical cases has not increased in years, though if done well and scientifically is far more difficult than formerly. In the first place families are smaller now, formerly it was not a hard matter to find families of six or seven children, but now one or two children make up the majority of families.

We are all aware of how much more tedious and more difficult it is to handle the primipara than the second or subsequent confinements; they take much longer and being entirely ignorant of such things as well as anxious and often alarmed are more exacting of the accoucher. Obstetrical cases must be given precedent over all others, even over our own health by breaking our rest at all and untimely hours of night, also causes us to lose other calls as well as miss our office hours and appointments. The responsibility is also greater now than formerly, nor is there a class of practice in which a physician is more subjected to criticism and even violent slander and loss of prestige than obstetrical practice.

We can all call to mind many instances where some physician has suffered unjustly in loss of practice or otherwise from some unavoidable complication, such as puerperal sepsis, lacerations and many other complications to mother as well as to baby.

To a case of obstetrics well and scientifically cared for, he is of incalculable value to husband and father later on, especially if attendant restores wife to her normal standard, free from the many complications and sequelae that are wont to follow in the trail of pregnancy and confinement.

Now what do we get for all this? Fifteen dollars is the rule it seems. Many get only \$10 and not a few receive no compensation whatever. No one will vouchsafe but what this

state of affairs, that so vitally concerns the great majority of the profession, should be remedied, but what can we do? Or rather what will we do? There is no other class of men but would have remedied such a defect in their welfare.

How long would a trades-unionist stand for it? It may be said in answer that we are a profession and above such comparisons. That is why we are poor and why we remain so.

Why should the doctors stand still when all around them are getting more out of their daily efforts? Certainly we must live, and food stuffs have trebled in value and we require quite as much as formerly.

Our families also are just as worthy of a high station as anybody else, and these big fashion lady hats and every other item that the doctor must constantly buy have increased in value. In other words, his dollars are coming in certainly not any faster than formerly and they will not go near so far.

Formerly oil lamps at fifteen cents a month sufficed, but now electric lights must light up the offices of the progressive physician. He requires an automobile too, and many other expensive requisites, yet he only gets \$15 for a case of obstetrics, for being up all night, and making four or five after calls, besides having already made several unanalyses and lost time in many other ways. And this when all goes well,—but how often do we have simple, uncomplicated cases? All experienced men have been through the mill and need no rehearsal of experiences, but why don't we act?

Some say, "Well, a mid-wife will do it for \$5 or \$10 if I don't." Let them, they have no reputation to loose and time to burn. "But Dr. Ketchum will if I don't." Ah, here is a real stumbling block. We all are fully aware of the fact that the profession unfortunately contains a good few of this class, and that is the reason that we should act together. Until such a time as we may be able to get together on matters of fees and other vital business connected with our profession, the following plan is offered as a partial solution to the question.

We must first change the whole basis of charges in obstetrical cases. It is wrong to take a labor case at a fixed charge, and that charge too low in the beginning. We would scarcely take a case of pneumonia or other disease at \$15, yet

he may get well or die in a week. I dare say the doctor would not be censured either, for all consider pneumonia a serious and dangerous disease and confinement as a harmless affair free from danger, rather like a tea party where if anything goes wrong it is the doctor's fault. A doctor that does much obstetrical work can scarcely ever find a time when he is not under obligations to stay in the city, either looking after after-treatment or expecting some case, a responsibility that can not be estimated.

In the practice of obstetrics, a printed form of instructions to enlighten the prospective mother is a valuable asset and saves much explanation and gives us more sanitary conditions when the confinement arrives. We can emphasize the importance of precautions, urinary analysis, cleanliness and many simple rules, etc. Also state in it the importance of anticipating the doctor's fee or a substantial part of it. Our charge should be based on responsibility, time lost, and services rendered. Of course responsibility is much greater where you deliver a future President or future millionaire; charge accordingly. Time lost should be reckoned by the hour. Common sense tells us it is worth more to wait on a woman that is twenty hours in labor than one that is one or two hours only, even if our service consists largely of idle waiting.

Some charge \$5 an hour, and that is a reasonable basis. Urinalysis should be thoroughly made and charged for. We may save the husband funeral expenses later on by care in urinalysis, and certainly that should be worth something to him in a business way, besides the sentimental side of it. Many throw in a week or so of daily visits. Now that is an injustice to the doctor who practices it, and competition almost requires it of most of us. After-care is necessary and important, but we should not be expected to give our time, advice, etc., for nothing. Surgical attention or forceps delivery, repairing lacerations, necessary special work. Your tailor don't patch your coat free just because he made your suit; why should we sew up a tear free? A stitch should be worth \$5, a surgeon later on would charge \$25 or more for it. Forceps not only require special skill, but carry added responsibility. Hence we should be well remunerated for this operation.

The great idea after all is if you do this work you should do it well, and you can't buy rubber gloves and dozens of other requisites unless you are paid accordingly. When asked what your charges will be, say if you must \$15 and upwards, no less, but more according to trouble, complications, etc., and don't be afraid to say that you expect it to be cash, for those who expect to pay can raise the money before as well as after confinement and will not be offended if they had intended to pay. If it is charity all well and good, we must care for deserving charity, but we should know if it is not, and save our collectors sole leather.

A sample charge itemized: \$5 for five urinalysis, \$5 for one hour's actual attendance and \$5 for after attendance; \$15 total. Now that really looks cheap, doesn't it? Yet that is a sample case with no complications or heartaches, and a kind that none of us would object to attend.

Another itemized: \$5 for five urinalysis; \$15 for three hours' sleep lost, and \$6 for after attendance; \$31 total fee; a fair charge, isn't it?

If the societies would give one hour to the discussion of such ideas instead of every member getting up to blow his own horn overtime, no doubt the rank and file of the profession would attend better and more enthusiastically.

The older members of the profession can get better fees (though many do not, and it is also a fact that the older often become the better "cutters," but the younger members must root for themselves alone, expecting no co-operation from the elder men as a rule.

Dr. Obstetrician, wake up and answer, why does Dr. Surgeon ride in a big automobile while you still drive the old gray mare or even walk, perhaps? But we can all get better fees, so let the slogan be "we can and we will."

The calcareous spur is a real condition—especially in people past middle life. It may be associated with flat-foot, but is not flat-foot. A properly fitting ring cushion will often relieve the condition.—*American Journal of Surgery*.

THE MEDICAL PROFESSION MUST CHANGE ITS TACTICS.

BY WILLIAM J. ROBINSON, M. D.,
NEW YORK CITY,

President of the American Society of Medical Sociology.

He who is not a frequent visitor to radical clubs, does not come in contact with newspaper men, with New Thinkers, and does not read regularly the numerous naturopathic, health culture and physical culture journals, and other allegedly advanced publications, can have no idea how the medical profession is ridiculed, how it is maligned, how it is lied about, how it is misrepresented, how it is "knocked" on every possible occasion.

We are pictured as ignoramuses, grafters, butchers, anxious to operate whether there is a necessity or not, drug dopers, etc., etc. We are denounced as a trust, monopoly, and any attempt of ours to organize, to pass laws protecting the public health is characterized as an attempt at class legislation, a desire for special privileges, inspired by our fear of the competition, by our fear of the superior skill of our irregular rivals.

And the average physician who has not given the matter any thought, has no idea what effect these unceasing slanders and persistent lies have on the public mind, how suspiciously a large part of the public is beginning to look at the medical profession, how we are losing the confidence of the people, how the ground is slipping from under our feet.

As an illustration we need only mention the reception that has been accorded to the suggestion of a Federal Department of Health. The motives that actuate us and the objects of such a department were at once misrepresented, the people were made to believe that their freedom to choose a medical adviser was threatened, the forces of reaction and obscurantism, masquerading in some instances under the guise of liberalism, were quickly marshalled and in a short time a society was organized, which now claims a membership of one hundred and fifty thousand.

We, physicians, are ourselves to blame. When the irregular, fantastic and pernicious cults began to make their appearance, we paid no attention to them. We thought they amounted to nothing, and would soon dry up and shrivel away of themselves. When the malicious attacks began to appear in the various quack publications, we remained silent. We considered it *infra dignitatem* to pay attention to them, and we thought that the public would have no difficulty in seeing through their falsity and meretriciousness.

Our long and patient inactivity has been due to the false idea that the truth will always triumph and error is bound to die. Yes, eventually. But if error is allowed to grow and spread unhampered, while those who see the truth will not take the trouble to proclaim it and expose the error, then it can take centuries before the correctness of the truth and the falsity of the error will be perceived.

In this as in the every line of human activity prevention is immeasurably superior to cure, and the right way to fight is not to permit it to get a firm foothold. Error and superstition are hard things to uproot after they have attained the dignity of a universal belief.

It is time that the medical profession changes its tactics and assumes a wide-awake, militant attitude. It is time that we actively attack error wherever it shows its head. By reading papers before lay audiences, by participating in discussions, by writing to the newspapers, by refuting the false arguments of the false prophets wherever they appear, we can do much toward destroying the influence of the quacks and the irregular cults. In short, we must throw off our exclusiveness, we must go out to the public and take it into our confidence.

The truth is with us—that we know; only we must not hide it under a bushel, and expect that its light will, without any effort on our part, penetrate into the darkest recesses of ignorance and quackery.

12 Mt. Morris Park W.

Selected Article

DISEASES OF THE STOMACH AND DUODENUM FROM A SURGICAL STANDPOINT.

BY WILLIAM J. MAYO, M. D.,
ROCHESTER, MINNESOTA.

Few people with chronic disease die from the malady with which they suffer during life. Post-mortem information as to the causes of death has usually disclosed that death was due to secondary complications and terminal infections. The post-mortem did not present a true picture of the disease as it existed during the curable period because it could not show the living pathology.

Post-mortem findings have, however, given us accurate information as regards certain diseases, such as acute perforation of the stomach, because the perforation often led directly to the death of the patient; but in chronic gastric diseases, unless they terminate fatally from some acute condition, we are not greatly benefited by post-mortem examinations.

The contributions of surgery to further a better understanding of diseases of the stomach and duodenum, have been of the first importance and have revolutionized our ideas concerning these conditions. This newer knowledge will necessitate a readjustment upon a modern basis of many of our former opinions.

Surgical measures have illuminated pelvic cellulitis and pelvic hematocele, showing them to be tubal infections and extra-uterine pregnancies. Phlegmonous enteritis, obstruction of the bowels, general septic peritonitis, perityphlitis, and a host of other supposed conditions, were proved, by surgical means in the majority of instances to be the result of appendiceal inflammations. In the same manner, diseases of the biliary tract, pancreas, and other obscure corners of the abdomen have had their true pathology brought to light.

The stomach has been credited with a host of diseases which it never possessed and has received an amount of treatment for supposititious conditions that is of little credit to the medical profession. These mistakes have been due, mainly,

to certain fundamental misconceptions as to the function of the stomach, its relation to diseases in general and especially to those of the digestive tract.

In this respect the stomach resembles the urinary bladder, the supposed diseases of which have been so greatly reduced since the cystoscope, ureteral catheter, x-ray and other means of direct inspection have come into general use. Tuberculosis of the kidney masqueraded as intractable cystitis, the relatively unimportant bladder involvement giving rise to nearly all of the symptoms and securing for the patient a large amount of unnecessary treatment.

Why was the male so frequently believed to have bladder disease? Because of enlarged prostate, posterior urethritis and kindred diseases. When stripped of the symptoms it is not responsible for, but which nevertheless give rise to complaint, the bladder itself will seldom be found to be diseased. To a great extent this is true as regards the stomach, which is held responsible for more "complaints" than any other organ in the body, and yet it is not often the real source of the symptoms, but rather the mouthpiece speaking for a host of other organs.

The stomach has several important functions, the first and most important is that of storage. This organ acts like a magazine of a coal-stove, feeding its contents slowly into the intestinal tract for absorption and assimilation. The food, which is more or less mixed with the ptyalin in the process of mastication, lies in the fundus of the stomach in a globular mass from twenty to thirty minutes. The gastric secretions are largely formed in the pyloric end and are stimulated into activity. The mass gradually becomes mixed, and passes, a portion at a time, into the pyloric antrum, where it is ground up and ejected through the pylorus.

When a certain degree of acidity exists in the pyloric antrum, the pylorus opens and the chyme passes into the duodenum, and when a certain degree of acidity takes place in the duodenum the pylorus automatically closes. It should not be forgotten that the duodenum has the paramount right over the stomach in the control of the pyloric apparatus, and that this right to control is not confined to the duodenum, but is possessed to some extent by all the derivatives of the

midgut from the common duct to the splenic flexure of the colon and accounts for gastric disturbances in the presence of intestinal disease.

The mechanical effect of the action of the stomach upon the food-mass is much more important than the chemical effect. The gastric juices, which consist of a dilute solution of hydrochloric acid, pepsin, and certain other secretions aided by the gastric musculature, breaks the food-mass and forms it into a homogeneous whole. Motility is the most important gastric function and anything that interferes with this function causes marked disturbances of the stomach. We have paid relatively too much attention in the past to the chemistry of the digestive process and too little to the more important function of motility.

In over three hundred gastrectomies in which the entire pyloric end of the stomach was removed, necessarily reducing subsequent secretions of hydrochloric acid and pepsin to a minimum, we have never had any complaint of gastric distress from the patient after the operation if there was unobstructed opening for the passage onward of the food. This is also true of the relief afforded patients with obstruction when gastrojejunostomy is performed, although the continuous presence of alkaline-biliary and pancreatic secretions following operation must act to neutralize the gastric secretions and interfere with all the gastric functions excepting that of motility.

The stomach may be described, anatomically, as a muscular organ with temporary storage function which enables its possessor to rapidly place in its cavity a considerable quantity of food products for the slower process of digestion and absorption, rendering continuous feeding unnecessary.

The stomach has two well defined compartments. First, the fundus into which the food is immediately received and temporarily contained. This part of the stomach does not have a great amount of secretion, and is more or less under the control of the cerebro-spinal nervous system, that is, we are conscious to a considerable extent of the condition of its cavity by the feeling of repletion after the full meal, hunger, etc. Second, the pyloric antrum, where the secretions are most active and the muscular action most powerful. Of this

part of the stomach we have comparatively little knowledge or conscious control. In many of the lower animals a sphincter exists between these two cavities which is called the antral sphincter. If this sphincter ever existed in man it has now disappeared, although physiological contraction takes place at that point.

The first four inches of the duodenum, the part lying proximal to the common duct, originates, like the stomach, from the foregut, and its functions and diseases are those of the stomach rather than the intestines, although, morphologically, it resembles the small intestine.

The control of the intestinal tract which includes the antrum of the stomach, is primitive, and is obtained by means of internal secretions. This control existed before the cerebro-spinal nervous system had developed and continues to have paramount influence over the digestive and assimilative functions. This method of control acts by chemical stimulation through the blood-stream and also through the sympathetic ganglia. It may be compared to the hand and fingers which play upon the piano; the internal secretions being the active agents and the sympathetic nervous system the co-ordinating body. The plexuses of Meissner and Auerbach, which are derived from the cerebro-spinal as well as the sympathetic nervous system, have comparatively little influence over digestion and assimilation. The fundus of the stomach was a late development and is consequently more or less under the control of the cerebro-spinal nervous system; it follows, therefore, that the stomach is the place where derangements of the entire intestinal tract between the beginning of the antrum and the splenic flexure may reach the consciousness of the individual. This is the reason why strangulated hernia, appendicitis, gall-stones, intestinal tumors, intussusception, etc., cause nausea and vomiting and pain in the stomach; the distress arising from nature's endeavor to secure rest by means of the so-called "pyloro-spasm," which acts to prevent food from passing out of the stomach. If food remains too long in the stomach it interferes both with the storage and digestive functions; the secretions become changed and a chain of symptoms are set up which are spoken of as dyspepsia, and indigestion. If we place too great reliance upon

laboratory findings we may be influenced to consider these purely secondary conditions as actual diseases of the stomach, and to name them in accordance with some prominent symptom. This has been done over and over again.

Looked at pictorially, stomach disturbances may be divided into four groups: First, where the stomach is disturbed by general conditions and where, for a time, the gastric distress obscures the actual disease. We have all the humiliation of treating the patient for stomach trouble who was suffering from cardiac insufficiency or the gastric manifestations of arterio-sclerosis; of giving pepsin and hydrochloric acid to a patient for supposed dyspepsia who had chronic nephritis; of making a diagnosis of gastric ulcer because of gastric hemorrhage the result of cirrhosis of the liver, and of treating the stomach because of the vomiting of pregnancy. Not a few patients with gastric crisis due to locomotor ataxia have been subjected to gastrojejunostomy for supposed gastric ulcer. These are a few examples of systemic disturbances upon the gastric function.

Second, gastric disturbances due to a group of diseases more or less intimately associated, for example, atonic dyspepsia, prolapse and gastric neurosis. Atonic dilatation gives rise to a splashy stomach, the abdominal walls are flaccid, and the abdominal aorta may be so plainly felt that the unwary are led to diagnosis of aneurism.

Prolapse of the stomach is, in the majority of cases, a part of Glenard's disease, and although bismuth and x-ray photographs show a marked downward displacement, there is usually very little mechanical interference with the progress of food.

Gastric neurosis is an exceedingly common condition, and two of the many types are worthy of mention. The female from 17 to 24 years of age, who vomits as soon as food is taken into the stomach, and the male of middle age with constant gastric complaint of the hypochondriac type. Atonic dilatation and prolapse are seldom benefited by operation, and surgery is much too serious an agent to be used as a means of psychotherapeutics in gastric neurosis.

Third, the disturbances of the stomach due to appendicitis, gall-stones, intestinal tumor, intussusception, intestinal tuber-

culosis, etc. These have already been discussed. As a rule, surgery must be invoked to secure relief in this class of cases.

Fourth, a small group of cases in which the stomach is actually involved in diseases that can be demonstrated surgically, of which ulcer and cancer are the most frequent examples.

Mistakes in diagnosis are more often the result of a lack of examination than a lack of knowledge. The first step in the diagnosis of supposed disease of the stomach should be a general physical examination, in order to eliminate causes of gastric distress which originate in diseases outside of the digestive tract. We should then eliminate the non-surgical diseases, i. e., atonic dilatation, prolapse and gastric neurosis, etc. Next in order come diseases of the digestive tract outside of the stomach which may give rise to the symptoms. All of these possible conditions must be eliminated by careful and methodical examination before taking up the question of diseases which can be rightfully attributed to the stomach.

When Kussmaul adapted the stomach tube from the stomach pump in 1867, and applied it to the diagnosis and treatment of gastric disorders, a great step was made in advance. This device imparted some knowledge of diseased processes and changed functions in the interior of the stomach, as evidenced by secretions, food and other material removed by the stomach tube. However, since the days of Kussmaul and his collaborators, the amount of information gained in this way has been small. A great amount of labor has been expended in examining the gastric secretions, test-meals, etc. The results have often been disproportionate to the amount of effort, and too frequently have been accepted at a fictitious value. In our disappointment over the failure of the laboratory to establish definite diagnoses in many conditions of the stomach, we are going too far in our criticisms, moreover, the laboratories have not failed, but we have failed to rightly interpret the laboratory findings. It is only in contracting actual conditions found through surgical inspection with that of laboratory and other diagnostic findings that we are enabled to check up and obtain a proper valuation of the various signs and symptoms of gastric disease.

In showing the size, shape and position of the stomach, the x-ray has been of some service. The gastroscope has not yet been perfected so that it can be put to practical use, and the diaphanoscope gives unimportant results.

In making a diagnosis of the stomach, the history of the patient is of the first importance, particularly in relation to early symptoms when characteristics of disease are not obscured by secondary complications. The relation of food to the production of the symptoms should be carefully noted after the history, inspection, palpation and accurate location of points of pain and tenderness. Next in importance is the stomach tube. (a) To draw off the stomach contents; a careful gross examination should be made of the material. In ulcer of the stomach the organ often contains a considerable quantity of sour, pungent fluids, greatly in contrast to the sickish coffee-ground liquids so often found in cancer. If there is obstruction, the contents will contain food remnants which will be readily detected macroscopically. (b) Distention of the stomach with air by means of the Davidson syringe, in order that its shape, outline and position may be demonstrated. At times a tumor will be brought into a situation where it can be palpated, when it might not otherwise be discovered. (c) Laboratory examination of the stomach contents. A determination of the amount of acids has considerable value, but only when taken in conjunction with clinical findings. High acids with hypersecretion gives testimony in favor of benign disease, but the converse is less true as regards malignancy. Occasionally a piece of tissue may be obtained for microscopic examination.

Free or occult blood either in the gastric contents or in the stool, is an aid in differentiation, but of less importance than is popularly believed.

Chronic Ulcer of the Stomach and duodenum—Twenty-five years ago, when I was a medical student, ulcer of the stomach was considered an exceedingly common condition and one easily diagnosticated. Ulcer of the duodenum, on the other hand, was believed to be exceedingly rare and difficult to diagnosticate. Ulcer of the stomach was supposed to occur in the female in more than 60 per cent. of cases, and in the

male less than 40 per cent. These ulcers were usually thought to be multiple. The main reliance in diagnosis was the fact that the patient took food and had pain which was relieved when the stomach was empty. With this condition it was believed that the patient had ulcer.

What has surgery demonstrated to be the actual facts? First, that in at least 75 per cent. of the cases the ulcer is not in the stomach, but in the duodenum. As to the sex, 80 per cent. of the patients upon whom we operate for ulcer are males. Multiple ulcer exists in less than 8 per cent.

In observing the relation which food has to ulcer, we find that previous to the stage of obstruction, food gives relief to pain, which is most intense when the stomach is empty. The patient takes food, milk or other diluent, or bicarbonate of soda to get relief by neutralization of the retained acid secretions. The patient with other characteristic stomach disturbances who wakes up at a certain hour of the night with bitter, acid, sour feeling in the stomach and raises up a mouthful or two of this burning secretion, or is compelled to take food or drink for acidity, in the majority of instances will be found to have ulcer.

It is evident that a large number of supposed ulcers in the past were in the nature of disturbances classed under the head of (1) general diseases affecting the stomach, (2) atonic dilatation, prolapse and gastric neurosis, (3) disturbances of the stomach due to diseases of the intestinal tract.

One of the peculiar features of chronic ulcers of the stomach and duodenum is the deceptive improvement which is so often mistaken for cure, and which has apparently little relation to the actual condition of the ulcer itself. After serious symptoms lasting for some weeks, the patient may have complete relief for weeks or months, and yet if operated upon during the quiescent period the ulcer will almost regularly be found open and unhealed. The supposed cures of chronic ulcers of the stomach and duodenum may be compared to the supposed cures following each attack of recurring appendicitis or gall-stone disease.

What shall we do with chronic calloused ulcers of the stomach and duodenum? I believe that the unprejudiced observer

must come to the conclusion that operative relief is indicated after a reasonable amount of medical treatment has failed to give a permanent cure. Calloused ulcer of the stomach should if possible be excised on account of the serious cancer liability, and if necessary for drainage a gastrojejunostomy should be made in addition. Ulcers of the duodenum do not often become malignant and gastrojejunostomy is a most reliable procedure in these cases.

Cancer of the stomach is the most common of all cancers in the human body, as no less than 30 per cent. occur in the stomach. They are amenable to surgical treatment with good prospects of cure if patients can be submitted to operative treatment sufficiently early in their development. Twenty per cent. of our cases of cancer of the stomach submitted to radical operation more than three years ago, are alive and well, some of them have been well for more than nine years. Cancer of the stomach does not produce symptoms of cancer during the curable period, and it is only when the situation of the growth introduces mechanical elements which interfere with the progress of food in the stomach, or when a tumor can be felt, or some other fortuitous circumstances occurs, that we are able to make a diagnosis in time for successful operative procedures. It is in cancer of the stomach that the prolonged laboratory investigation has been productive of so much harm — *a scientific but deadly delay.*

I do not believe the general position can be assailed which assumes that all cases in which there is mechanical interference to the progress of food, or a demonstrable tumor, should receive surgical consideration. A suspicion that there is cancer of the stomach should above all things lead to surgical consultation. These cases have no more business in the medical wards, than has cancer of the lip, breast or uterus.

A high degree of technical skill is not required in order to palpate a gastric tumor, or to make a diagnosis of mechanical obstruction. If the patient is told to take with his evening meal some soup containing half-cooked rice and a penny's worth of raisins, remnants of this food will be found in the stomach the next morning if obstruction exists.

Modern surgical methods have developed a safe technic for the radical removal of gastric cancers with good prospects of cure. It only remains for the profession to recognize the facts, and *give the patient a chance*.—N. Y. State Journal of Medicine.

Medicine and the Law

PROHIBITION OF SALE OF OPIUM BY RETAIL.

A druggist was prosecuted under the Kentucky statute, Section 2630 (Russell's St. §5067), for selling at retail, not on a physician's prescription, a quantity of opium, with the knowledge that it was intended for smoking purposes or for habitual use. The statute provides that no person shall sell at retail certain poisons to any person without satisfying himself that such poison is to be used for legitimate purposes, and not on a physician's prescription. He was convicted, and appealed. It was agreed that the appellant was a retail druggist; that he sold the opium to the purchaser for the purpose of allowing the latter to smoke it; that it was not sold on a physician's prescription; that it is a poison, destructive to adult human life in quantities of five grains or less. The offending charge was that the appellant sold the drug by retail without a prescription to a person addicted to the use of it; and, this being so, the sale was not made for a legitimate purpose. A reversal was asked upon the ground that the statute is invalid because of uncertainty in not defining with sufficient precision the words "retail" and "legitimate purposes," and because it makes an arbitrary and unreasonable discrimination in excluding from its provisions manufacturing chemists and druggists selling by wholesale, and has the effect of depriving the appellant of his ability and property without due process of law. With regard to the appellant's first objection it is well settled that a penal statute creating an offense must be sufficiently plain and exact to enable persons of ordinary intelligence to understand its provisions. The appellant argued that the legislature should have defined the meaning of the words "retail" and

quantity would constitute a sale of retail, and what would or "legitimate purposes," so that a druggist might know what would not be considered a sale for legitimate purposes. The court held, however, that it would be absurd to say that a person who had intelligence enough to conduct a drug store did not know when he was selling a drug by retail, and there ought not to be any difficulty in understanding the meaning of the words "legitimate purpose" as used in the statute. If he does not know or has any doubt about the legitimate purposes for which the drug may be used he must in good faith exercise reasonable care to find out the purpose for which it is bought. Whether or not this degree of care is used is a question of fact to be determined, if put in issue, from the evidence. On the trial the Commonwealth introduced a number of physicians to show that the sale of opium for smoking purposes or to an habitual user of the drug was not a sale for legitimate purposes. Their testimony was objected to, but was held to be admissible, since the words "legitimate purposes" when applied to a sale of drugs or poisons by druggists have a technical meaning that may not be clearly known or understood by courts or jurors. The court also held that the failure of the legislature to place in this statute restrictions around the sale of opium or other drugs by wholesale did not leave it open to the objection that it is discriminatory, arbitrary, or unreasonable. The purpose of the act was to correct the evil following the illegitimate use of opium and other drugs usually bought at retail, and all persons within its scope were treated exactly alike.—*Katzman v. Commonwealth*, Kentucky Court of Appeals, 130 S. W. 990.

PHALACROSIS.

The British Medical Journal had a good story last month of jurors and medical evidence. A leading citizen was hanged for assault and battery. One of the witnesses was a local doctor, whom the prosecuting attorney proceeded to worry, suggesting that he was prejudiced in favor of the defendant, and had, therefore, willfully distorted his evidence in his favor,

The doctor denied this, and went on to say that the defendant was suffering from "phalacrois."

The word caused a sensation in the court. Asked to define the disease, the doctor described it as "a sort of chronic disease of an inflammatory nature which affects certain cranial tissues." Asked if it affected the mind, the doctor said he was not posing as an expert, but he had known some persons who were suffering from the disease become raving maniacs, others merely foolish, some showed destructive and pugilistic tendencies, while many others had suffered for years and had never shown any mental abnormalities. He refused to say anything further, and the jury promptly acquitted the "leading citizen," because, as the foreman explained, "the doctor said there was something the matter with his head." When the case was over the prosecutor sought enlightenment as to the mysterious disease, and found that "phalacrois" meant "baldness!"—Law Notes (London).

Society Proceedings

AMERICAN PROCTOLOGIC SOCIETY.

Twelfth Annual Meeting, held at St. Louis, Mo.

(Continued from page 48.)

"ULCERATION OF THE RECTUM IN PREGNANT WOMEN AND
THE PART IT PLAYS AS A FACTOR IN ABORTIONS;
WITH A REPORT OF CASES."

By Leon Straus, M. D., of St. Louis, Mo.

Sixteen years devoted to diseases of the rectum exclusively has afforded the author the opportunity to see and classify a large number of cases of irritable ulcer of the rectum in pregnancy, to say nothing of a much larger number not associated with this condition. He has kept a very careful record of these most interesting cases and has classified them with reference to certain conclusions, namely, that it is a factor not infrequently overlooked. Then, too, many general practitioners make the contention that an operation is uncalled for and unwarranted, that is to say, an operation will certainly produce the very result which it is intended to avoid.

He dissented absolutely from this contention and for that reason reported the results of his work along this line and his final conclusions. He has operated twenty-four times for the result of irritable ulcer of the rectum in pregnant women. Not all of these operations were made to prevent abortion. In fact, only fourteen had had one or more abortions. That leaves ten for which the operation was made to relieve the distressing pain from which these patients suffer. A number of these cases are unique and teach a lesson apart from the average case. The history, symptoms and results of several such cases were reported and the following conclusions were drawn:

First—That irritable ulcer of the rectum is not an infrequent factor in abortion and miscarriage.

Second—That the local lesion is not recognized by the general practitioner as a factor in abortion and miscarriage.

Third—That you will meet strong opposition to operative interference by the general practitioner.

Fourth—That you can and should operate at any period of the pregnancy if indicated.

Fifth—That the danger and only danger is in leaving the fissure without operating.

Sixth—That you may and will often have to assume the entire responsibility for the outcome of the operative procedure.

Seventh—That we proctologists should teach on the by-ways and highways of surgery the invariable indication for surgical interference in these unfortunate cases.

"THE TUBERCULIN REACTION IN CASES OF PERIRECTAL INFECTION."

By Collier F. Martin, M. D. of Philadelphia, Pa.

The author was so impressed with the frequent coincidence of pulmonary tuberculosis and perirectal infections that he began a series of tests and examinations to determine their relation.

He uses the Moro tuberculin reaction, combined with physical and bacteriologic examination.

In his preliminary report of 36 cases, which he divides into two groups, he got the following results:

Group I. Rectal pyogenic infections, including here fistulae, abscesses, and deep rectal ulcerations. There were 20 positive reactions out of 21 cases. The negative case was one profoundly tuberculous.

Group II. Non-pyogenic cases. There were 11 cases, including hemorrhoids, fissure, and catarrhal proctitis, with three positive tuberculin reactions. This he holds, is probably the ratio of tuberculosis in this class of cases. One negative case in this group was intensely tubercular, with extensive lung lesions evident, and with abundant tubercle bacilli in the sputum.

Accepting the tuberculin tests a specific one, he got 100 per cent. positive in Group I, and about 36 per cent. in Group II. The four cases giving negative reactions, yet being proved tuberculosis, by sputum examination, provide to be of very low resistance, two dying in a few months and two, at present, in a precarious condition.

He emphasizes "continued history taking" as being extremely valuable to the proper appreciation of the case.

The author places particular stress on the prognostic value of the tuberculin test.

Accepting the positive reaction to tuberculin as indicative of a tuberculous lesion somewhere in the body, his conclusions are as follows:

1. Two consecutive, negative reactions, with no physical signs in evidence, is conclusive proof of the absence of such lesions.

2. Two consecutive, negative or feeble reactions, with physical signs of a lesion somewhere, is indicative of a very grave prognosis.

3. The degree of the reaction is directly proportionate to the degree of the resistance of that individual.

4. That the tubercle bacillus, like no other, reduces the bodily defences to pyogenic invasion.

5. That in practically all rectal pyogenic infections, there is a tuberculous lesion somewhere in the body.

6. That the classification of perirectal infections into tuberculous and non-tuberculous is untenable.

His investigations have caused the author to raise the following questions:

1. Is the primary tuberculous lesion pulmonary?
2. Is the local infection tuberculous?
3. Do the tubercle bacilli gain entrance into the body through the respiratory or the alimentary tract?
4. Is such infection carried to the rectal and perirectal tissues by the blood current, the lymphatics, or directly, by the fecal current?
5. How does the tubercle bacillus influence the pyogenic infections—locally, as in mixed infection, or by lowering the body-resistance to the invasion of pyogenic bacteria?

Recent Progress in Medical Science

STAMMERING.

G Hudson Maknen, Philadelphia (Journal A. M. A., September 3), classifies stammerers as follows: First, those nervous children with any speech abnormalities; second, the beginning stammerers with hesitancy of speech; third, the complete stammerers, who know their defect. There are, therefore, three stages: the prodromal, the acute and the chronic. For the first, the time to cure stammering is before it begins. Stammering is an acquired defect of an acquired faculty, and we should not let a stammerer hear others stammer when learning to talk. Ideation and oral expression are new to the child, and they do not acquire their normal automatic action, if ill guided. The treatment should begin at the kindergarden age, and the ideal place would be in a special hospital school away from relatives, who, unfortunately, often lead the patient into the very fault they are trying to avoid. The treatment of the second stage, that of hesitation and frequent repetition of sound, is similar to that of the first with some additional measures. It is cruel to send such a child to school, and, as a rule, he should be kept in an atmosphere of good speech and drilled in all the elements of speech, together with respiratory, phonatory and articulatory exercises. His defect should not be mentioned to him. In the fully developed defect the patient is apt to be discouraged as to his relief or to look to quacks. If he has weak will power he must be shown how to

strengthen it. If he lacks attention and concentration or has grown morbidly introspective and self-conscious he must be shown how to get out of these conditions. He must learn self-control before he can control his speech. As regards specific methods, mental culture, voice culture and speech culture must form the basis of every rational treatment. The patient must learn the exact musculature of speech. One difficulty is that he tries to use the articulatory mechanism alone, apparently ignorant of the fact that the vocal mechanism should be used. In singing he uses the latter, and therefore rarely stammers. It is a good practice, Makuen says, to drill in phonetic reading and what Dr. Bell calls syllabication. The individual must be taught to regard the organs of speech as an instrument on which he must play as he would play on a piano, and he must have the same facility that the pianist has with his fingers. Finally, as has been said, there are those who stammer and those who are stammerers, meaning, Makuen supposes, that we all stammer to some extent. But the stammerers are those who are conscious of their difficulties. A stammerer must learn that he can be cured. There is a field here for psychical treatment. Simple elocutionary measures may cure some, but there are some people so organized that it is very difficult for them to overcome the defect.

HEBOSTEOTOMY.

C. W. Barrett, Chicago (Journal A. M. A., Nov. 19), pleads for the greater use of hebosteotomy by obstetricians. He thinks that we are following a mistaken course in considering pregnancy and labor as physiologic processes. It would be safer to consider them pathologic. We should not be satisfied unless pregnancy terminates with a living child and a living mother. Patients should be examined for disproportion before delivery and should be safeguarded by being put under the best possible conditions. Forceps are seldom indicated when the head floats loose above the pelvic brim and, useful as Cesarean section is in these cases, hebosteotomy has its place. It gives a separation of from 3 to 6 cm. and facilitates delivery in cases of moderate disproportion to such an extent that the mortality and morbidity to the child and mother is only slightly greater

than that from the injuries already sustained. It should not replace Cesarean section in patients with a true conjugate of less than 7 cm., but it has a wide field of usefulness in those border-line ease in which delivery fails after strong labor. When it is employed after labor has been long continued the patient should be delivered immediately with high forceps or version. As compared with craniotomy, it saves the child, with only very slight increase of mortality to the mothers, if any. He holds, too, that the simple instruments for this operation should be a part of the obstetric outfit. Speaking from his own experience, he says that the six cases in which he has used it have gone far to conquer an earlier prejudice against the advisability of attacking the bony pelvis. None of the complications charged to the operation, such as injuries to the child, and non-union causing after disability to the mother, have occurred in his cases, and in all cases there was ample room for delivery after cutting the pubic bone. In all cases examined the union has been perfect, allowing no play of loose ends. The skiagraph picture has indicated a fibrous union in two cases with separation of less than half an inch. The findings do not promise much as regards permanent enlargement of the pelvis; one operation does not preclude the necessity of another if occasion occurs. He prefers the subcutaneous method of operation, which has great advantages, providing safe means for avoiding the bladder. The technic is described. The technic, in addition to forceps delivery, is the introduction of the needle and the sawing of the bone, with perhaps the sewing of an unusually placed tear. He sees no advantage in preliminary introduction of the saw before forceps delivery or version, but recommends the introduction of the silk carrying the saw; if delivery failed the saw could be quickly drawn through and used.

INTUSSUSCEPTION OF THE APPENDIX.

Alexis V. Moschkowitz, New York (Med. Rec., Dec. 19, 1910), describes the case of a child who had an intussusception of the appendix into the cecum. Operation resulted in recovery. This is a rare occurrence if one is to judge by the number of cases reported up to date, which amount to twenty-

five, including the author's case. A resume of these cases is given by the author. The symptoms are pain, of a very severe, cramp-like character, which has entire remissions of hours or days. In the intervals the patient feels and looks perfectly well. The patient is constipated if there is added to the intussusception of the appendix one of the cecum into the colon, or ileum into the cecum. The disease may last from several weeks to months. A tumor may be felt through the abdominal walls under anesthesia; without anesthesia it is generally not discernible on account of the board-like hardness of the walls. Blood and mucus may be seen in the stools. The intussusception of the appendix may be partial or total, and may involve the other parts of the intestine. It may be inverted into the cecum. Treatment should be operative; one may incise the cecum, disinvaginate, and extirpate the appendix; incise the cecum and extirpate from within; or resect the cecum with the appendix in one mass.

THE RELATION OF THE ACID-FAST TUBERCLE BACILLUS TO OTHER FORMS OF BACTERIAL LIFE

Stephen J. Maher, New Haven, Conn. (Med. Rec. Nov. 12, 1910), believes that the acid-fast bacillus of tuberculosis is simply a highly specialized bacillus that has the power of resisting the lytic power of the animal cell, and was derived originally from a non-acid-fast bacillus. The hope for the infected animal lies in depriving the invader of his acid-fast armor and weapons. The great sensitiveness of the bacillus is a key to the solution of the problem of nature's cures *in vitro* in tuberculous animals. Change of air and surroundings renders the bacillus unable to maintain itself acid-fast. If the cells win the patient recovers. If the cells lose, the coccal or rod forms break down the surrounding intrenchments. The so-called secondary invaders in mixed infections are really derivatives from the struggling acid-fast bacilli. The acid-fast bacilli develop into culturable cocci and non-acid-fast bacilli, which are the so-called secondary invaders.

POLIOMYELITIS.

A. L. Skoog, Kansas City, Mo. (Journal A. M. A., Nov. 19), says that there is as yet no specific treatment for acute poliomyelitis and that in many cases in his experience drugs have been used to excess. An early diagnosis is particularly to be desired, and two laboratory methods are mentioned: (1) the blood count, showing a mild leukocytosis with decided increase of lymphocytes and decrease of polymorphonuclears; (2) lumbar puncture. When the diagnosis is made and prodromal symptoms can be treated there is no objection to the moderate use of laxatives, and one of the most important therapeutic means is rest. Lumbar puncture may be of value therapeutically as well as for diagnosis. Hexamethylenamin may be used in the treatment of these cases. It is probably best to give the drug in as large doses as is safe for a period of a few hours and then to discontinue it for about twenty-four hours. His practice is to give from 0.12 to 0.24 gm. to a child from 2 to 4 years of age, giving a dose every hour until three doses have been given, then giving no more until the following day at the same hour, when the course is repeated. This repetition may be employed as long as the acute symptoms persist. Thus we suddenly load the body with the chemical and then allow a short period of rest. We might give from 3 to 8 gm. of the drug to the adult during a daily three or four hour period of its administration. During the past months he has used this method in five cases in the prodromal stage. Three patients recovered without any paralysis, one died, and another, whose case was of the foudroyant type, developed paralysis. Hexamethylenamin has also been given to a few children in families in which there was a fear of others acquiring the disease. In patients suffering from much pain and hypersensitiveness he has used the salicylates, of which aspirin was found most agreeable to children, and he has also obtained relief by applying heavy cotton dressing to the involved extremities. Partial immobilization may have been a factor in producing the results obtained. In his practice he employs isolation of patient and sterilization and disinfection of articles and excretions.

THE PRACTICAL VALUE OF A POSITIVE COMPLEMENT FIXATION TEST IN SYPHILIS.

George W. Vandergrift, New York, says (*Med. Rec.*, Nov. 26, 1910) that as early as the appearance of the initial lesion a positive complement test can be obtained in most cases. This enables one to institute antisyphilitic treatment before the appearance of the secondary symptoms, and saves the patient from the suffering of the eruption, and the sore throat and mucous patches. The non-specific diseases that give a positive blood test with this reaction are clinically distinct from syphilis. In the presence of symptoms that may or may not be syphilitic the positive reaction is very valuable. When only two or three atypical symptoms are present hesitation may be ended by this test. In secondary symptoms that are not typical it is also valuable. The test is of great value to the skin specialist, the ophthalmologist, the neurologist, and other specialists. The test shows that syphilis may be acquired in an unknown manner and may remain latent for years, finally showing itself in tertiary symptoms. Here the reaction is of the greatest value. It serves as an index to treatment and an assurance of a cure.

THE BEDSIDE WIDAL TEST.

George Gilman, San Francisco, Cal. (*Medical Record*, Oct. 29, 1910), gives a bedside method of Widal testing, which consumes little time and enables a test to be made at the bedside and the results to be known in a few hours. The test solution is a formalized culture of the typhoid bacillus, which can be procured from any pathological laboratory, and will keep any length of time. In a small vial are placed 48 drops of the test solution, and to this are added two drops of the patient's blood. The tube is corked, well shaken, and set aside for three to five hours. A clear supernatant liquid indicates positive, a turbid liquid a negative reaction. The same technique may be used for other agglutination tests.

In neuralgia a local application by aconitine ointment (1 to 2 per cent.) is often of decided benefit.

Miscellany

PRACTICAL CLEANINGS.

As recommended by Sir William Bennett, no examination of a case of pain in the groin can be effective unless it is made in the erect as well as in the horizontal position of the patient.

Vesical is differentiated from urethral fistula by the fact that in the former leakage is continuous or especially before urination, and in the latter leakage occurs during urination.

Placing the patient on his abdomen sometimes relieves post-operative distention of the stomach in the early stage. This simple plan, suggested by Woolsey, may render lavage unnecessary.

Curettage is generally contraindicated in cases of chronic endometritis in which the uterus is displaced and bound down by adhesions, or in which pelvic exudates are present, as it might set up fresh inflammation.

Chronic ulcers of the face situated in the area between lines drawn from the outer end of the eyebrow and the upper border of the ear above, and the angle of the mouth and the lobe of the ear below, are usually epitheliomata of the basal-celled variety and they are comparatively non-malignant.

No operation for hemorrhoids should be done without a thorough examination of the heart and abdomen to discover etiologic obstructive conditions.

It is advisable to test the functional activity of the ulnar nerve in fractures about the internal condyle of the humerus, owing to its susceptibility to injury on account of its exposed position.

A most important feature in the treatment of fractured clavicle is immobilization of the scapula. Any method which accomplishes this will, to a great extent, prevent displacement of fragments and deformity.

The presence of a perforation of the bony septum of the nose is usually an evidence of a previous syphilitic process.

NEWS ITEMS.

Proctological Society Prize.—The American Proctological Society announces a prize of \$100 to be awarded to the author submitting the best original essay, having for its subject any disease of the colon. Essays in competition must be submitted to the Secretary of the committee, Dr. Lewis H. Adler, Jr., 1610 Arch street, Philadelphia, on or before May 10, 1911. Each essay must be typewritten, marked with a device or motto, and accompanied by a sealed envelope having on the outside the same device or motto, and inside the name of the author. The competition is open to graduate of medicine (not fellows of the society) and to members of the senior classes of all colleges in the United States or Canada. Further particulars may be obtained from the Secretary of the committee.

Dr. J. L. Biggs, charged with the killing of R. A. Dykes, a railroad contractor at Warren, Ky., two years ago, has been acquitted.

Dr. C. E. Purcell, of Paducah, was acquitted of malicious shooting by the jury January 3. Last May Dr. Purcell shot Dr. Frank Boyd, also of Paducah, following a dispute.

Dr. Robert E. Gatz, of Louisville, was given a verdict of \$777 against Dr. C. H. Harris, of Louisville, in the Jefferson Circuit Court.

Dr. Stephen Sharp, of Covington, has been appointed bacteriologist of the Covington Health Department; he succeeds Dr. John Batte, who resigned.

Dr. C. P. Burnett, of Paducah, was elected City Health Officer to succeed Dr. S. Z. Holland.

Dr. Florence Brandeis, of Louisville, is confined to her home by illness.

The Daviess County Medical Society, at its meeting in Owensboro, elected Dr. Edward Barr, President; Dr. G. Armendt, Vice President; Dr. J. J. Rodman, Secretary, and Dr. O. Rash, Censor. Dr. J. W. Ellis, of Masonville, was elected delegate to the State convention.

Dr. William A. Jenkins, of Louisville, has been elected visiting physician to the School of Reform to succeed Dr. William Bailey, who resigned.

Dr. W. E. Grant, of Louisville, who has had charge of the dental examination of the school children in Louisville, reports that 85 per cent. of the 6,000 children examined have diseased teeth or gums.

The Christian County Medical Society, at its annual meeting in Hopkinsville on December 26, elected Dr. O. E. Wright, of Bolivar, President, and Dr. W. S. Sandbach, of Casky, Secretary.

Dr. T. W. Gardiner, of Hopkinsville, has been reappointed a member of the State Board of Control of Charitable Institutions.

Dr. W. Edward Grant and Mrs. Grant, of Louisville, have returned from Pass Christian and New Orleans.

Dr. C. T. Wolfe, formerly of Corydon, Ind., has located in Louisville.

Dr. J. Rowan Morrison, of Louisville, has been appointed a member of the Louisville Milk Commission, vice Dr. John W. Blanton, deceased.

The Jefferson County Medical Society on January 2 elected the following officers for 1911: Dr. Virgil E. Simpson, President; Dr. Albion L. Parsons and Dr. Walker B. Gossett, Vice Presidents, and Dr. Hugh N. Leavelle, Treasurer. Dr. Dunning S. Wilson having been elected Secretary for two years has another year to serve.

The Society of Physicians and Surgeons held its annual election of officers January 19. Dr. Claude G. Hoffman was elected President; Dr. Vernon Robins, Vice President; Dr. Charles W. Hibbitt, Treasurer, and Dr. W. C. L. Pearcefull, Secretary.

Dr. Guy P. Grigsby, of Bardstown, has located in Louisville.

Dr. William Bailey, President of the State Board of Health, has been seriously ill at his home in Louisville for several weeks.

Dr. William A. Keller, of Louisville, has returned from St. Louis, where he attended the Bowlers' convention.

Dr. Edward Wells, of Irvine, is visiting in Mt. Sterling.

Dr. F. W. Hinitz has returned to Danville after spending several days in Louisville.

Dr. Benjamin Bayless, of Louisville, is in Vienna taking a special course in medicine.

Dr. Edward J. Richey, of Louisville, is spending ten days in Florida.

Dr. Lucian Heizer, of Bowling Green, visited Dr. J. W. Heizer in New Haven.

Dr. M. H. Yeaman, of Louisville, was the guest of Mr. and Mrs. J. H. Yeaman in Henderson.

Dr. Ezra Witherspoon, of Louisville, has returned from Florida, where he spent several weeks.

Dr. J. I. Greenwell has returned to New Haven after a short visit to Louisville.

Dr. A. B. Stoops, of Mt. Sterling, has gone to Florida to spend the remainder of the winter.

Dr. William D. Powell has returned to his home in Harrodsburg after a visit to his relatives at Cumberland Gap.

Dr. A. C. Overall and Mrs. Overall, of Mt. Washington visited Mr. and Mrs. Asa Overall in High Grove.

Dr. Segui O'Brien, who has been living in the West for the past year, is expected home to be the guest of his mother in Louisville.

Dr. C. R. Martin, of New Castle, left for Florida to spend the remainder of the winter.

Dr. Ellis Duncan, Coroner of Louisville, has returned from a two weeks' fishing trip in Florida.

Dr. William Cheatham, of Louisville, has gone to New York for a short stay.

Dr. Bernard Asman, now of Hot Springs, Ark., has returned to Louisville to deliver his scheduled lectures in the University of Louisville.

Dr. Robert Pirtle, of Louisville, who has been ill at his home, has again resumed his professional duties.

Dr. J. T. Dunn, of Louisville, has returned from a trip to Florida.

Dr. Thomas Hays, of Louisville, is spending the remainder of the winter on the Gulf Coast.

MARRIAGES.

Dr. Clay L. Nichols to Miss Effie Duckwall, both of Louisville, December 21.

Dr. H. F. Litchfield, recently an interne in the Louisville City Hospital, now of Houston, Texas, to Miss Rose Leibovitz, of Louisville, December 25, in New Orleans.

DEATHS.

Dr. John L. Hale, of Wickliffe, died in Cairo, Ill., December 30, aged 75 years.

Dr. J. W. R. Parker, of Somerset, died at his home December 18, from pneumonia, aged 87 years.

Dr. William J. Hodges, of Pineville, died January 4 from injuries sustained in a railroad accident, aged 43 years.

Dr. William R. Cherry, of Morgantown, died at his home December 13 from appendicitis, aged 35 years.

Dr. W. T. Grissom, of Bliss, died on Sunday, January 1, aged 51 years.

Dr. R. J. R. Tilton died at Carlisle, after a year's illness, January 6, aged 79 years.

Dr. W. W. Ranshaw died at Mammoth Cave, January 18, aged 40 years.

Dr. Walter T. Roberts, of Louisville, died at St. Joseph's Infirmary January 24, from uremia, aged 51 years.

IN DOUBT.

"Did you have appendicitis?" said the insurance man.

"Well," answered the skeptic, "I was operated on, but I never felt sure whether it was a case of appendicitis or a case of professional curiosity."—*Washington Star*.

BOOK ACKNOWLEDGMENTS.

THE PRACTICE OF SURGERY. By James G. Mumford, M. D., Instructor in Surgery in the Harvard Medical School. Octave of 1015 pages, with 682 illustrations. Philadelphia and London: W. B. Saunders Company, 1910, Cloth, \$7.00 net; half morocco, \$8.50 net.

PRIMER OF HYGIENE. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Hermann Heyer. Cloth. Price, 40 cents net. Pages, 184, with 113 illustrations. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

A TEXT-BOOK OF PATHOLOGY. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia; Second Edition. Octavo of 856 pages, with 437 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$5 net; half morocco, \$6.50 net.

THE CARE AND TRAINING OF CHILDREN. By Le Grand Kerr, M. D., author of "Diseases of Children," etc. Cloth. Price, 75 cents net. Pages, 233. New York: Funk & Wagnalls Co., 1910.

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph. D., Professor of Bacteriology, in the University of Chicago and in Rush Medical College. Second revised edition, octavo of 594 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$3 net.

THE PRACTICAL MEDICINE SERIES, under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, M. D. Volume ix. Skin and Venereal Diseases, Miscellaneous Topics; edited by W. L. Baum, M. D., and Harold N. Moyer, M. D. Pages, 245, illustrated. Cloth, \$1.25. The Year Book Publishers, Chicago.

A MANUAL OF DISEASES OF THE NOSE, THROAT, AND EAR. By E. Baldwin Gleason, M. D., Professor of Otology at the Medico-Chirurgical College, Philadelphia. Second revised edition. 12mo. of 563 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Flexible leather, \$2.50 net.

PRINCIPLES OF PUBLIC HEALTH. A Simple Text-Book on Hygiene Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By Thomas D. Tuttle, M. D., Secretary and Executive Officer of the State Board of Health of Montana. Cloth. Price, 50 cents net. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

STUDIES UPON LEPROSY; Notes on the Study of Histories of Lepers from the Standpoint of Transmission. By Donald H. Currie. A Contribution to the Study of Rat Leprosy, By Donald H. Currie and Harry T. Hollmann. Washington Government Printing Office, 1911.

PAINFUL AND PERSPIRING FEET.

Change as often as convenient from one pair of shoes to another. Sponge occasionally with alcohol, or, still better, a 5 or 10 per cent. solution of salicylic acid in alcohol. Bathing the feet at night in a solution of permanganate of potassium is also serviceable. A dusting powder composed of alum, boracic acid and talcum is very agreeable. Chilblains are usually relieved by painting with a strong solution of iodine. Corns should be extirpated during the pleasant months of early summer.—The Medical Summary.

Tuberculosis of the vertebrae must be remembered when confronted with partial paralysis or paraplegia.

Carious teeth, especially one of the lower molars, may give rise to earache, and this condition should always be looked for if an examination fails to disclose any aurial inflammation.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton" February 6, 13, 20 and 27.

| | |
|----------------------------|-------------------|
| DR. V. E. SIMPSON..... | President |
| DR. A. L. PARSONS..... | } Vice Presidents |
| DR. W. B. GOSSETT..... | |
| DR. H. N. LEAVELL..... | |
| DR. DUNNING S. WILSON..... | Treasurer. |
| | Secretary |

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House February 14 and 28.

| | |
|----------------------------|----------------|
| DR. J. A. FLEXNER..... | President |
| DR. ARGUS D. WILLMOTH..... | Treasurer |
| DR. G. B. JENKINS..... | Vice President |
| DR. H. J. FARBACH..... | Secretary |

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House February 3.

| | |
|-------------------------|----------------|
| DR. W. A. BOLLING..... | President |
| DR. C. B. SPALDING..... | Vice President |
| DR. RICHARD T. YOE..... | Treasurer |
| DR. W. O. GREEN..... | Secretary |

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club February 16.

| | |
|------------------------------|----------------|
| DR. C. G. HOFFMAN..... | President |
| DR. VERNON ROBINS..... | Vice President |
| DR. CHAS. W. HIBBITT..... | Treasurer |
| DR. A. C. L. PEARCEFULL..... | Secretary |

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club February 3 and 14.

| | |
|------------------------------|-------------------------|
| DR. J. GARLAND SHERRILL..... | President |
| DR. J. ROWAN MORRISON..... | Vice President |
| DR. FRANK C. SIMPSON..... | Secretary and Treasurer |

WEST END MEDICAL SOCIETY; meets at the Old Inn February 14.

| | |
|--------------------------|-------------------------|
| DR. I. A. ARNOLD..... | President |
| DR. H. L. READ..... | Vice President |
| DR. JOHN K. FREEMAN..... | Secretary and Treasurer |

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Stanford, Ky., April 20, 1911.

CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., August 10, 1911.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., May 10, 1911.

SOUTH WESTERN MEDICAL ASSOCIATION; meets in Paducah, Ky., May, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Versailles, Ky., April 14, 1911.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., 1911.

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., June 27-30, 1911.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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No. 3

Original Articles

SUPPURATIVE MIDDLE-EAR DISEASE.*

BY HARRIS KELLY, M. D.,
LOUISVILLE, KY.

I have chosen this subject because it is the common ground upon which the general practitioner and the aural surgeon most frequently meet; in fact, nearly all of these cases come under the hands of the general practitioner for treatment long before they are seen by those doing special work. I thought it would be a matter of interest to discuss this subject with you, and to find how these cases are handled by the general practitioner.

In order that we may more perfectly understand the situation, let us, for a moment, review the anatomy of the tympanic cavity.

The tympanum, or middle ear, is in immediate relation with some of the most important structures of the human economy. Above, we have the brain; internally, the labyrinth; externally,

* Read before the Louisville Society of Medicine

the drum membrane; posteriorly, the mastoid cells; on its lower wall, the jugular vein and the internal carotid artery; on its anterior surface, the Eustachian tube, which is the drainage for the middle ear, communicating with the posterior wall of the pharynx. When we recognize that this cavity is entirely lined with mucous membrane, there is no great difficulty in understanding why inflammation of the tympanum is so common. "Tympanitis is found to exist in, approximately, 70 per cent. of all cases of ear disease, and the importance of a proper consideration of these cases is further enhanced by the fact that the evil consequences of tympanitis may be more numerous and more serious than those of any other class of aural affections. Not only may the function of the organ be impaired by diminished mobility of the sound-transmitting apparatus, but, in many instances, important neighboring structures may suffer from extension of the inflammation and even life may be in danger."

Many classifications of middle ear inflammations have been given, but the one which chiefly interests us is the purulent, and this one will be discussed by us this evening.

Histologic considerations predetermine the fact that all acute inflammations of the middle ear must primarily be of the so-called catarrhal type whenever the morbid influence be only mechanical or thermal. If, on the other hand, the disturbing agent be virulent bacteria, or if the powers of local resistance be reduced, a purulent inflammation will result.

Causation. Recognizing the importance predisposing influences of acute and chronic inflammations of the nasopharynx, and also the generally accepted view of pathologists that there can exist a purulent exudative process without the presence of pyogenic bacteria, or, at least, without it being possible to demonstrate their presence, it is nevertheless necessary to remember that such micro-organisms can be found in the secretions of the ear, and it is, therefore, necessary to look upon every case of purulent otitis as bacterial in origin. Repeated attacks of rhinitis, pharyngitis, tonsillitis, or the existence of abnormal tissue in the nose or throat, with congestion of the tympanum, are favorable to an inflammation of the middle ear. Certainly the tympanum is in ideal breeding ground for bacteria. Warmth, moisture, protection and a

proper degree of temperature are always present. Among these bacteria are found the germs of pneumonia, influenza, and the pus micro-organisms proper. In acute suppurative cases, the pneumococcus is isolated frequently in pure culture. In chronic otorrhea a mixed infection is the rule, and the predominant germ is the staphylococcus. Such organisms as the pneumococcus and the influenza bacillus, which have occasioned the acute outbreak, soon die off and are replaced by secondary invasion of more potent bacteria.

Scarlet fever is a most fruitful source of purulent otitis. This disease acts with great virulence on the tympanic mucosa, and in a very short time leaves its destructive results on the tympanic cavity. A recent author has likened its toxic effect on the middle ear to post-scarlatinal nephritis, suggesting the probability of a similar mode of origin.

The pathology of middle ear disease is essentially the pathology of purulent mucous degenerations in other parts of the body. Under the action of the various bacteria, pus cells accumulate in great numbers, and, instead of the deposition of fibrin, there is a tendency to liquefaction of the exudate through the solvent or peptonizing action of the pyogenic germs. Chemotaxis causes the leucocytes to leave the blood vessels and attack the invading bacteria. In the ensuing struggle, the leucocyte attempts to engulf and digest the microbe, and restoration to health depends largely upon the ability of the host to furnish a sufficient number to overcome the invading army of bacteria. Virulent micro-organisms rapidly destroy the cells and it is the debris that constitutes the tympanic pus. Under the microscope the exudate shows serum, leucocytes and bacteria.

The epithelium is first destroyed, and then the bones of the middle ear, especially the incus. These ossicles, when deprived of their periosteum, rapidly succumb, and necrosis of the middle ear chain is a very common feature of prolonged suppuration of the tympanum. The drum always suffers from ulceration and erosion. When pus forms in the tympanum, the intra-tympanic pressure upon the drum increases, and as it becomes greater than the external air pressure, a bulging outward of some portion of the membrane follows. In conse-

quence of the decreased vitality of that portion of the membrane, spontaneous rupture takes place, and through this perforation the pus finds its way into the outer air.

If suppurative inflammation of the middle ear could always be confined to the tympanic cavity, the disease would only be of interest in impairing the function of the sound-conducting organs. It is only when the pus breaks its bounds that serious symptoms are the sequelae. Among these may be mentioned mastoiditis, meningitis, and the various types of cerebellar abscesses. Of course, after an involvement of the middle ear of a purulent character, complete regeneration of the anatomic structure is quite impossible, but it is remarkable, under proper treatment, how much improvement will result and how slightly the hearing is frequently involved.

The symptoms of this disease are quite characteristic. In the acute type, excruciating pain in the ear is always in evidence. Great depression is a constant factor and is always present. Coincident with the disruption of the drum membrane comes relief, and when the pain persists after tympanic rupture, we have likely a secondary involvement to deal with. In children, fever, nausea and vomiting are constantly present, and we will not go amiss if, in many cases where meningeal prodromes are present, we will examine the ears.

Tuberculosis is a rather frequent cause of otitis media, and this type of the disease is painless and progressive. The objective symptoms, as seen by the examiner, are redness and outward projection of the drum, usually accompanied by mastoid tenderness.

In no branch of modern medical investigation have the strides been more rapid than in purulent ear conditions. Since 1895, when Whiting wrote his masterly article on the mastoid, up to the present time, this condition, both acute and chronic, has been the subject of profound and intelligent scrutiny. I am not sanguine in saying that modern otology holds out even greater promise for future success in this disease, and it is chiefly an accurate knowledge of the underlying causes which has made this progress possible. Modern medical treatment has practically reduced the dangers of secondaries to a small percentage of their original number, and modern otological

surgery is doing wonders in the treatment of these troubles when they have passed the danger line.

Treatment. In acute cases, dry heat applied to the ear frequently relieves the pain. It is unwise to use moisture in the auditory canal, as nearly all of these meustra are simply breeding grounds for bacteria. Do not delay incision of the ear drum. It is a simple process, and will frequently afford relief in a manner which is quite marvelous. I believe if paracentesis were more frequently employed by the general practitioner, chronic otitis media would well nigh become a thing of the past. It is these neglected acute cases which become chronic and are followed by such serious and destructive results. In paracentesis, have your incision large enough to establish free drainage. Great relief frequently follows the general irrigation of an acutely inflamed tympanum with some moist, antiseptic, irrigating fluid. Boric acid is probably the best.

When the disease becomes chronic, it follows the general line of suppurative treatment in all parts of the body. Dench has recently been using a solution of formalin, 1-1000, and has achieved most brilliant results. Frequently these cases recover under rational, persistent antiseptic treatment. Personally, I like the use of alcohol, gradually increasing its strength and being largely governed in its use by the progress of the patient. Diluted alcohol, containing boric acid in varying strength, dropped into the ear every day, has certainly worked wonders in many cases which I have treated. Richards, who is doing considerable work along this line, recently stated: "Cases of chronic otorrhea, under the persistent use of antiseptic medication, may never become perfectly well, topically, but this type of treatment so reduces the infectious process that secondary brain and sinus involvement have almost become a thing of the past." Surely no greater recommendation of any type of treatment could be desired than this, considering the national reputation of the man quoted above.

Dry treatment has never appealed to me. The powders become caked in the ear, and seriously interfere with the drainage, which is in itself a point always to be wished for in this character of disease.

As to the more extensive surgical procedures which are

employed in the treatment of chronic otorrhea, they are essentially a subject for the specialist and hold no interest for the general practitioner.

Atherton Building

SEXUAL EDUCATION.*

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Whether animal life as we see it today, is a later stage of a series of evolutionary changes that had their beginning in a one cell animal or whether the different forms of animal life are the results of a spontaneous creation does not influence the fact that the first basic law of animal life is self-protection and the second one is the propagation of the species.

About the latter, due either to the will of an omnipotent being or the result of generations of natural and sexual selection, each individual animal from man to the lowest form has incorporated within its being, bred in every cell of its body the inherent desire to propagate. And this same desire, either by the will of this omnipotent being or the result of centuries of natural and sexual selection is inspired, accented, by a sense of deep and profound pleasure that reaches its highest development in man.

That such a thing, with beyond the shadow of a doubt, has more bearing on our church, our society, even our state, than all other things combined should be so shamefully neglected was the incentive of this paper.

In the early dawn of civilization when each and every one of our progenitors had to gather and fight for his own sustenance, had to be at all times on the alert and prepared for attacks from the animals and reptiles of his period, beside which he was a mere pigmy; at this time the sense of self-protection was the most predominating. But, as he learned that co-operation, that by working in harmony with his fellow man he could conquer the most powerful of his enemies, that with his neighbor's assistance he could build a home that was comfortable and more secure, it was but a step farther for there to be born in him a regard for this neighbor. That his neighbor

* Read before the Louisville Clinical Society

or neighbors should come to his rescue at the peril of their own lives planted in the mind of primeval man the seed of sympathy and friendship. This instinct was primarily one of self-protection because in protecting his neighbor he was indirectly protecting himself. But the security gained by this banding together soon developed a feeling other than that of physical safety. Men who first joined forces to drive away beast and kill reptile soon found pleasure in the retelling of the hunt. In the talk around the evening fire one man found some other man that he liked to listen to better than the others. He always selected a seat near this man in the evenings. Naturally they were together in the hunt and he soon found that he would take a greater risk for this man's life than for the others. Just why, he did not know, but in his developing mind he was laying the foundation of society. When it happened that this friend was killed he experienced a feeling new to him. It was true that numerous other neighbors had been torn to pieces in his presence, but with the death of this man he had lost his first friend. And as he looked upon this dead friend he realized that he had lost something. A thing that was untangible but nevertheless meant a great deal to him. As he grieved over this loss there came to him a new thought, indistinct, undescribable, but comforting, that at some time in the future he would be able to explain to this dead friend that he tried his best to save his life.

These were the first, the crudest, the basic principles upon which our great institutions of state, society and church are founded. As man developed he developed these institutions. Greater numbers gave a greater protection until the time came when he was no longer the hunted but the hunter. From these times remote to our present day there has been less and less need of this physical protection until today it is practically nil. Evolution has so modified this basic principle in man that today we see only interesting remnants of what was at one time man's greatest heritage.

Thus we first find man a creature of aboriginal habits, not of choice, but of necessity. The enormous chest and powerful arms of the Paleolithic human prove this. No other animal of this period could climb trees or travel by them as swiftly as he,

therefore they were his refuge. Prehistoric man as we know him did not live in trees, but in protected caves. Each family consisting of the male and female and very few children lived apart. But as he learned the advantages of association and co-operation he naturally desired to live near his fellow being. At first it was just two, three, or four families, later this number increased until a tribe or clan was formed with a leader for each. This leader was by force of circumstances the most powerful man and the craftiest hunter. Soon his old enemies, the beast and the reptile, began to fear and avoid him. Being secure from these, his greatest source of physical danger, he began to observe other things conducive to comfort and health. In the past he had been called upon by neighboring clans to help combat some mutual enemy; that enemy dispersed he visited with the clan and noted that his neighbor had a more advantageous site for dwelling than he. This he discussed with his own people on his return home and a decision was reached that the clan would move to these better quarters also. This movement was repulsed by the other and thus strife, not between man and beast, but between man and man, had its beginning. In those days numbers counted most. The larger tribe always defeated the smaller one. Attention was turned then by a natural law to the increase of the individual family. The female, who played a small part before, now commended attention as a producer of fighters.

On hunting expeditions, or in the times of war man's slowly developing mentality took note of certain peculiar natural phenomena and he began to associate victory or defeat with these. Things he could not understand awed him and he gave to them a certain supernatural power, but with that instinct, which still is inherent in the human race, he tried with his finite mind to grasp the infinite. In his endeavor to comprehend the mysteries and wonders of nature he clothed them with the imagery of his crude mind and they became to him living things like himself. The mystery of life entered early in the narrow and superstitious mind of this primitive man. Procreation, the co-relation of the sexes, followed as it was by the birth of a new being, was the greatest as well as the most frequent of the mysteries that was about him. An act that

had been but a pure animal instinct became a thing of reverence to him. "Naturally he learned to regard most highly that which not only afforded him the greatest pleasure and the greatest good, but which appeared to him as the most powerful and the most incomprehensible, and thus it was that he came to look upon the generative power as superior to aught else." It formed the basis of his religion, it was the motive power of his government. Every thing associated with the creative act was sacred to him. In our ancient history of Egypt, Babolyn, Greece and Rome we still see, with all the great advancement man had made a great deal of reverence for things sexual. Temples were built in every large city and the greatest ceremonies of the year held in the honor of the male and female gods who were the embodiment of love and the creative power. The old testament of the Christian bible states plainly that the greatest curse that could be visited upon a woman was sterility and we find women today praying to some saint to guard and protect their unborn off-spring. The words used to designate the generative organs and the sexual act were sacred words to these people. They were free from all lewdness and sensuality. They meant to them the greatest gift of the Supreme Being. How many mothers of today have tried to keep the old testament a sealed book for her children, because she thought it was improper reading for them. Queer paradox is it not? Improper reading in the definition of her religion. And right here we can put our finger on the most potent source of our trouble. The best elements of civilization backed by a sense of false pride and false modesty have allowed a few vulgar, obscene people to debase and defile the most sacred of things. There has developed within the human mind a sense that has been called delicacy. To me in most instances this means the avoidance of the truth and the desire to escape responsibility.

At the beginning of the Christian era it is true the Romans had by their excess and dissipation lost sight of the true principles of their religion and the temples that at the height of Roman power were the sites intense religious feeling, had been converted into houses of licentiousness and brothel. The Christian religion with its teachings of modesty and purity of

womanhood was a complete reversal of this. An abhorrence was taught of all things licentious and lewd. The generative organs and the sexual act were surrounded by a sanctity, shrouded by a sweet mystery that was adorable. But in the time that followed to the masses of the people the sacredness of these things has been lost. The mention of these today is considered vulgar and is frowned upon by all respectable (?) people. To the young and adolescent not only their discussion is prohibited because it is unbecoming a lady or gentleman, but it is taught that the mere thought is degrading. From the age of five to fifteen there is nothing half so interesting, nothing that will receive the undivided attention and personal application as will the knowledge of things sexual. Proper instruction has been denied the majority of our children. Instead of the parents taking it upon themselves to lay the basis of a clean moral life they have allowed prudishness to interfere to the extent that the boy or girl gets his or her information, for information they will have, from some ignorant or vicious source. The increasing prostitution, male and female with its co-existing increase of venereal diseases, the increase in percentage of illegitimate births, the increase of divorce and unhappy and unfruitful marriages show the results of such education. I do not wish to create the impression that I believe that all sexual indiscretion can be stamped out by proper sexual education, but I do think that parents, who feel that it is their duty to give their child or children the best practical and esthetic education, they can, should not neglect the one part of an education that means more than all the rest, and, too, when the imparting of this knowledge draws parent and child so much closer together. Because it is the parent, especially the mother, that should impart in a proper manner, to the child the information he so eagerly desires.

The mother is the child's supreme parent. At various points in zoological evolution we see the functions we designate as maternal functions assumed largely by the male. But it is not in this that the male appears in the best light. He is prominent in the early stages of courtship and impregnation, but after conception it is he that must forage and protect. In the world

of business and science man can and does command renown and admiration, but in the home, the cradle of the nation, he is the lesser light.

The psychic as well as the physical nature of a child depends largely on his inheritance and the maternal influence of his early life. The mental activity of a child begins at an early age and this activity is generally manifested by his desire of knowledge about elementary things. One of the first of these desires is to know where children come from. No question could be more natural. In his rapidly developing mind he conceives in a way that the chick comes from the egg, that the apple comes from the tree, the berry from the bush, the flower from the bud, where then did he come from. The answers to this question are, perhaps, as numerous as the children themselves. Every one is familiar with the story of the stork, the doctor's satchel, the milkman and Santa Clause. But is it right to tell the child these fairy tales? I believe not, because it does one thing that parents rarely realize and that is it destroys the child's confidence and faith in its mother. At a very early age the child learns the true source of babies and then he knows that his mother in answer to a question about a simple fact told him a lie and with this discovery her sweetest influence over him is lost forever. We are asked at what age should a mother impart this knowledge? Just as soon as the child becomes insistent for an answer to his question. It is strange how each parent thinks that their child is too young and innocent to have any thought of such things. But it makes no difference how carefully you raise a child, how closely you protected him from all outside influence this early desire for knowledge of things sexual is ever present and a single word or gesture will render all the guarding useless.

The latent feeling of most parents is that sex is evil and that to impart knoweldge of it to their children is necessarily imparting evil knowledge. Nothing could be more erroneous. The child's questions are natural and harmless and should be answered in as free and lovable manner as they are asked. Of course it would be ridiculous to talk to a child of from four to six as you would to a grown person, but give him the

knowledge in such a manner that he can grasp it and understand. The question of sex need not enter into these early lessons at all. The egg or the flower, things the young mind can comprehend, can be used in explaining the laws of reproduction. Another question that often confronts the mother is what names or names to use in designating the generative organs. It seems strange to me why a spade should not be called a spade here as in any other part of the body. Here again the question of vulgarity arises. Teach the child to regard them as vulgar and evil and it will be vulgar, but teach these names as he is taught the names of biblical characters. Teach him that these are sacred and the greatest potential for good and not evil and he will regard them in his latter life as he does the holy trinity. He hears these names used in blasphemy and disrespectively by the mean and vulgar, but it never reflects on his estimation of these holy personages, it rather lowers, as it should, his respect for the blasphemers. And the same can be true of names given to the generative organs if he is taught in the proper manner. Answer then the child's first questions in a manner that he will understand and encourage the boy or girl to hold free discourse of these subjects with his mother. The mother will find no embarrassment whatever in talking to her child in a sweet and beautiful manner of these things if she begins early in the life of the child, but let her wait until the boy or girl is almost her physical equal, entering or about to enter the stage of puberty and if then she attempts to have her first talk with the child, it is sure to be embarrassing to both parent and child and as is true in a number of instances the child may already be better informed in an improper manner than the parent.

The proper sexual education of a child should consist then of first, the explanation of the source of babies, then the names of the generative organs and the instilling of the true sacredness of the creative act and throughout it all encourage the confidence of the child by a free discussion of these things and a truthful answer of his or her questions. Learn them to come to the parent for their sexual information and not to some older vicious companion or servant. A child, especially the girl should receive a full explanation of the stage of

puberty and the physical changes that take place at that time fully a year or better two years before the time of such a change. This education which is a mother's privilege and duty should not be technical. It should be of private and intimate nature and she should teach the child that its intimate relation with her is the same as the intimate relation of all young things to their mothers.

Up to the time of puberty the child's sexual organs are to him simply organs of excretion, but as the psychic as well as the physical changes of puberty begin to manifest themselves he must be taught the sexual side of the question. In the case where the child is a boy perhaps this can be best accomplished by the father or family physician. The mother who has taught these first lessons by a botanical or elementary zoological illustration will find it an easy matter to explain the human anatomy and physiology to the older child. Up to the stage of puberty the boy and girl have been practically on an equal basis, but with this advent and its subsequent changes they must be dealt with along different lines. To the boy must be taught the significance of the secretion and the seminal emissions and to the girl those of the ovaries and uterus and menstruation. If a proper respect has been taught the child for his organs it will exert a strong influence against any undesirable tampering with them at this period when his mind is so persistently directed toward them. For convenience let us consider the education of the boy and girl during puberty and adolescence separately.

The mother has served her usefulness as a sexual educator for the boy when he has reached the age of puberty, but her instruction in the past makes it easy for the father or the doctor to begin where she stops. The secretion of semen and its ejaculation having been explained he should be instructed concerning masturbation and sexual perversion. The young male human is like the young male of all animals arduous and amorous and being denied the natural satisfaction his new appetite craves it inevitably would follow that he would resort to the unnatural, masturbation and perversion. But the boy that has been taught a proper regard for his sexual apparatus and the creative act is readily controlled when a proper ex-

planation of this abnormal tendency is given. I believe it is best to talk to this boy in a straight, forward, open, above board manner. He has reached the age when, especially if he lives in a city, he hears all sorts of miraculous and impossible tales concerning things sexually. If he has been fully and properly instructed about the true state of affairs these alluring tales for the most part will fall on deaf ears. Nocturnal emissions and their cause should be explained to him, the truth should be told him about masturbation. Many a boy has lived in a state of dread and anguish that his disorganized his whole nervous system because of the awful things, impotency, insanity, etc., that he had been taught follow early masturbation. These falsehoods have made a very fruitful field for the quacks. Rather curb and control the tendency toward masturbation by promises and not by threats. Teach him that this and the perversion of the young are practiced by the class of people that use poor grammar and bad manners, in other words that it is the boys of little or no refinement and bad disposition that do not curb and control this desire. That you can abolish masturbation between the ages of fifteen and twenty completely I do not believe. The sexual instinct is strong in this vigorous young man and the mental control that comes with later years has not developed fully enough at this age. After he has passed the stage of puberty, has experienced an orgasm he naturally views the female in a new light, and it is at this time that a few well directed lectures will save this future citizen many an hour of pain and remorse and from the practical side many a dollar. Statistics show that fully seventy-five per cent. of men who reach the age of twenty-five have or have had some venereal disease. An idea is current among the laity that a boy will not be healthy or fully developed if he does not hold intercourse during the adolescence, and in numerous instances fathers have encouraged their sons to do this even to the extent of taking them to houses of prostitution. That this idea is not only false, but productive of great harm we all know. A boy should be taught that the most honorable and noble thing he could accomplish would be to meet his bride in as pure moral way as he expects her to meet him. This statement

will no doubt call forth a great deal of ridicule from the thoughtless and be hailed as an impossible ideal by even the thinkers. But it is not such an impossible thing. Remember that at the age of puberty we have a mental state that is more susceptible to persistent and forceful suggestion than at any other time in man development. The religious teachers of old recognized this fact and made it the time that they concentrated their religious instruction and held their confirmations. Ideas properly instituted at this time are never forgotten and instead of teaching a boy that he would not be a normal man if he did not indulge in promiscuous intercourse, teach him that he will be a better, stronger man physically and mentally if he abstain from this. Every boy has ambitions and desires above his present state and I believe that men of experience will bear me out when I say that proper instruction in things sexual at this time of the boy's life will bear golden fruit in his manhood. It is this time of life that faith and hope reign almost supreme. Show this boy the ravages of gonorrhea and syphilis, tell him what they mean to his future wife and children, let the physician explain how the innocent bride and new born babe are maimed and killed by latent gonorrhea and I say to you that this same boy will hesitate and think before he blindly follows a sexual impulse.

Striving for the ideal, but recognizing at the same time that we can't overcome the inheritance of ages in a fortnight, let us teach this boy some prophylaxis. If he is going to do these things, then let him use every precaution to prevent venereal disease. The statistics published in different naval reports in the past few years show what can be done by prophylaxis in the conquest of venereal diseases. The use of antiseptics against gonorrhea immediately after intercourse and of mercurial ointments within a few hours; if it does not improve his normal character it will at least tend to lessen the penalties levied against the innocent wife and babe.

Then, too, let the fact be universally known that every man contemplating marriage should go to his physician and have a heart-to-heart talk with him. If he has suffered from any venereal disease in the past have the doctor make sure that he has been cured. Then let that doctor explain to him in plain

unvarnished language the bride's position in the bridal chamber. She has not gained the carnal knowledge in the past that the groom has. In the majority of instances her lack of knowledge of these things is worse than pitiable. Explain to this young man that what was to him an inherent instinct must be a thing of education to her and that the happiness of many a home is ruined forever in the first week of married life. He must not treat his bride as he did the last prostitute he had knowledge of. He has at his mercy a psychic potential that if properly handled will be the greatest blessing of his life, but if improperly will make his home a hollow shell of pretense. And the doctor who does not take advantage of the opportunity thus afforded him on making this a greater and better world does not deserve the name of physician.

At the age of from fourteen to sixteen when womanhood begins to manifest itself, the properly reared girl is able to comprehend a full explanation of her developing sexual organs and their co-existing physical manifestation and influences. The girl at puberty is generally less conscious of her sexual nature than a boy, but the risk she runs in consequence of this ignorance are infinitely greater. It is the duty of the girl's mother to have won her complete confidence by this time of life and it is imperative that she now teach her the significance and importance of menstruation. We will take it for granted that the mother has prepared her daughter for the first appearance of the menstrual flow. Its manifestation should not produce a sense of shame or fear, but rather one of pride and joy. It is the crown of womanhood. We have been told that the ordinarily healthy woman can disregard the menstrual period, but when statistics show that fully fifty per cent. of women are not ordinarily hearty, the importance of proper conduct at such times is evident. The girl should know that good health is the most valuable thing to her and that in the majority of instances her health depends on normal menstruation. At this time each month she should rest and avoid anything that would tend to derange her regularity. In my opinion, the young girl beginning to menstruate should not be allowed to over exert herself mentally or physically. Many a girl has been injured for life by undue application to her studies at

this time. Experience has shown that it would be far better to drop all studies, even for a year, until the flow is well established in instances where there was any trouble in this regard. This girl will then come back and accomplish things in a happy manner and in a short time outdistance the girl who did not take the needed rest. Some of the so-called emancipators of the female sex have declared that woman is the physical and mental equal of man and point to the savage female to prove this ascription. But they fail to take note of the fact that the savage woman, ignorant as she is, appreciates her weakness and susceptibility at certain periods and that she does take her rest at such times. Strange as it may seem sexual invalidism prevails among the white women only.

I do not wish to create the impression that woman is not fitted for higher education. That question has been settled. But woman has her peculiar special needs, as has man, and then the influence of strain and stress on their more sensitive natures, their more finely balanced nervous system must not be disregarded, especially when these women are to become the mothers of our children. That statement that paternity is a mere incident in the life of man and why should maternity be more to a woman could have been made only by a person who never knew a true mother. Society and so-called advanced civilization has and may try to direct woman's ideas and ambitions in other channels, but ultimately she comes back to the home and children. Whether this is the crime that some emaciated, antiquated females claim it is or not, it is woman's inheritance and can not be denied. And it is here that future education can and will do so much for woman.

A mother's duty to her daughter is not completed when the stage of puberty is passed. She may have taught her as a child the source of babies, she may have instilled in her a reverence and sense of sacredness for things sexual, she may have taught her and cared for her properly through the early months of menstruation, but the last and by far not the least lesson and perhaps the most delicate one to handle, is the one of the physical relation between the girl and her future husband. The ignorance with which the average bride enters the bridal chamber is not only shameful, but it is a crime. The innocent

young woman always risks a great deal when she enters marriage. She truly knows very little of her husband, of her own possibilities, of the great laws of love. Basing her deductions on her home life, her association with companions, her ambitions for the future, the young woman thinks she possesses a certain character and she plans her future according. As a French novelist puts it, "All the candor of faith is there, the desires of inexperience, the need of a new life, the hopes of an upright heart. She has all the faculties of love, she must love; she has all the means of pleasure, she must be loved. Everything expresses love and demands love; this hand forms for sweet caresses, an eye whose resources are unknown if it must not say that it consents to be loved, a bosom which is motionless and useless without love, and will fade without having been worshiped; these feelings that are so vast, so tender, so voluptuous, the ambition of the heart, the heroism of passion. She needs must follow the delicious rule which the law of the world has dictated. That intoxicating part, which she knows so well, which every thing recalls, which the day inspires and the night commands, what young, sensitive, loving woman can imagine that she shall not play it"

She marries and if she has not understood the physical relation between man and wife, in the vast majority of cases she finds she was mistaken about herself and the man she married. As Ellis has said, "certainly more rapes have been effected in marriage than outside of it." The man who appealed to her in the light of her girlish fancy becomes absolutely repulsive to her on physical contact. Out of her beautiful, happy dream of life arises a black shape that menaces her, every hour, day and night, and where the marriage oath does not hold her in the bonds of most unhappy servitude, she resorts to divorce.

The contention has been brought forth that very few mothers have the ability to properly discuss this phase of sexual education with their daughters. Here then is the field for the physician. Surely a mother feels that the man who brought this child into the world can explain this thing to her. The great slogan today is preventive medicine; and I ask, is there a greater field than this? Let this doctor describe fully the

source and influence of sexual feeling. Let him, if you will, explain to her the great laws of love.

You will say to me that by so doing you are robbing life of its greatest and sweetest mystery and I will say to you that by proper instruction you will not only make this a more beautiful thing, but you will lay the foundation for a happy and useful life. When the time comes that a woman will look at a man in the same light that a man looks upon his bride to-day, when she will demand of the man the same things he demands of her, when her education has been such that she recognizes in the man she has accepted a male being whose physical contact will not cause her to shrink and tremble, but rather complete her earthly happiness, will make her look upon the creative act as the sacred thing it is and not as a wifely duty, when that time arrives the world-wide questions of prostitution and venereal diseases that are confronting us today with their every increasing, far-reaching malignancy will be of easy solution.

This task of sexual education is not a light or easy one. Centuries of prudishness coupled with an inherent desire to avoid the unpleasant things in life even though they involve our greatest happiness has instilled in the minds of man, and especially woman, a distaste for the discussion of the great problem. But a change of all this is inevitable. The world at large is slowly but surely awakening to the fact. There have been a few men in the past century that have devoted their entire lives to this work. They have been persecuted and prosecuted and their writings and publications have been suppressed by governments and denied the public. In our own country these men, who have fought the battle of this sexual problem in the past few years, as the battle around the problem of religion was fought in the seventeenth century, have found their greatest field. Here they have not been restricted and each year sees an increased growth of the movement. The press, the pulpit, the physician, the teachers of humanity, are recognizing the evil of ignorance and the pertinancy of enlightenment.

In the future as in the past the physician must be the vanguard of public education. He has taught the layman in

the past that he must keep his food and water supply clean, to screen his houses, the great value of fresh air and sunshine and in the future he must teach him the great value and the absolute necessity of sexual education. There is not a man or woman who has reached maturity that will deny this necessity and it behoves the physician, the alleviator and preventor of pain and suffering, to stimulate these people to follow the dictation of their own conscience.

TREATMENT OF SOME OF THE DISEASES OF THE PROSTATE.

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In selecting this subject I am aware that there is nothing that I can add to what has already been said and done in this line, but I can perhaps give a resume of the opinions of those who have added piece by piece to the knowledge of this great subject until what was not so long ago a wilderness is now a well trodden pathway.

In an acute prostatitis there is but one important thing to remember—hands off—rest the patient in bed, relieve the pain, use hot or cold applications to the perineum, keep the bowels open and the urine antiseptic and bland. This treatment will control the vast majority of cases, but there are a few that through virulence of infection or what not go on to suppuration. Valentine recommends massage in these cases. He says: "True, it is an unsurgical attempt to empty pus from the adnexa through the urethra, yet there are enough successful cases to justify the procedure." The writer feels that there is a chance of causing a rupture of the abscess into the rectum or into the surrounding tissues and thinks it more conservative to do a prostatotomy in those cases where the abscess shows no effort at spontaneous evacuation through the urethra. In those cases that do tend to drain into the urethra very gentle massage will undoubtedly be of service in completely expressing the contents.

The operation of prostatotomy is not a difficult one. After making the incision, either median or inverted Y the prostate

is exposed and through an opening in its capsule the finger is thrust through the substance of the gland into the abscess cavity which is emptied and packed lightly with gauze.

In chronic prostatitis we have an entirely different proposition. It is of primal importance to get the posterior urethra in as good condition as possible and for this many forms of treatment are advised. The method most successful in the hands of the writer is copious irrigations of a weak boric acid solution followed by instillation of 25 per cent. argyrol through a Gnyon's catheter. The silver nitrate solution following boric acid does not seem to act so well.

Massage in this affection has never, in the experience of the writer, been without good results. But as some claim that it tends to spread the infection it may be well to say that it should always be done on a bladder full of boric acid or oxyeyanide of mercury solution when all the pus and secretion can be expelled at once upon completion of the massage by having the patient pass the solution through the natural channel.

For hypertrophied prostate there are three courses open to us: catheterization, palliative or indirect operation, and radical operation.

Although it is claimed, that in the early stage of prostatic hypertrophy much can be done by massage, still these patients sooner or later come to the point where there is some obstruction to the urinary flow and then the question arises— which of the foregoing methods shall we pursue?

In very old men in whom an operation would probably cause death catheterization is the only course to follow. Mayo says, "the duration of catheter life averages from four to six years," but in these patients careful use of the catheter will often give them a fairly comfortable life. Of course, in these patients urinary antiseptics, my choice of which is hexamethylenamina, must be used along with general tonic and hygienic measures.

So far as the indirect operation of vasectomy, castration etc., go, the writer only mentions them to condemn them.

The indications for radical operation are all of them the result of obstruction to the urinary out-flow, viz: residual

urine, total retention, cystitis caused by decomposition of the residual urine trabeculated or sacculated bladder. I may say here that one case that I examined showed per rectum, but slight enlargement of the lateral lobes, while the cystoscope gave the most typical picture of the trabeculated bladder, the middle lobe was so large as to obscure the view of the ureteral openings with the direct vision instrument.

As to the time to operate, Cabot says it should be undertaken on the earliest evidence of urinary obstruction, long before the habitual use of the catheter becomes necessary. This opinion is clearly in accord with that of the writer since he can see nothing to be gained by procrastinating while the vitality of the patient is at an ebb and the ordinary condition grows from bad to worse. It is these cases of delayed operation that swell the mortality list of a procedure which of necessity must be performed on an individual of advanced years.

Of the direct operations we have the suprapubic with or without perineal drainage, the perineal, the combined and the Bottini. The selection depends upon the position of the prostate, bladder findings, and the operator himself.

Among the adherents of the perineal route are Young, Syms, Goodfellow, Watson and Wishard, while those who prefer the suprapubic are Freyer, McGill, Fuller, Willy, Meyer and Kalischer.

Of the perineal operations, the writer prefers that of Dr. Hugh Young, whose object is to preserve the urethra and if possible the ejaculatory bridge between the prostatic lobes. This operation is especially useful in young men where the loss of sexual power will finally lead to a mental condition which is but little better for the patient than the original prostatic condition. Young's tabulations as to sexual powers are as follows: 50 to 60 years, 3 out of 4 erections normal; 60 to 70 years, erections in 10 out of 15; 70 to 80 years, erections in 4 out of 6. He claims that in the first 75 cases there was no mortality. In this operation he makes the inverted Y incision, dissects away the rectum, divides the rectourethralis muscle, and exposes the urethra which is opened and a tractor inserted which pulls the prostate into the wound. The capsule is opened and the enucleation of the

lateral lobes made, the middle lobe is removed through the wall of the lateral lobe.

Willy Meyer has recently described a technique for suprapubic prostatectomy which does away with the hand in the rectum, but requires a large incision and the entire hand is inserted into the bladder, otherwise it is the same as the Fuller operation.

As to the advantage of either route the results with operators of equal skill are about alike. In the suprapubic there is undoubtedly time saved, but against this is the fact that the urethra is almost always destroyed, there being no attempt made at saving it. There is more frequent occurrence of epididymitis and the mortality is somewhat higher. One point decidedly in its favor is that it can be done in two stages, which is of value in septic cases which need drainage of the bladder and in those cases where the shock of a complete operation cannot be stood. The bladder can be opened under cocaine infiltration if desired and after draining for a week or ten days the operation is then completed. So far as drainage is concerned, it has been proven that the suprapubic drain is equally as good as the perineal.

The Bottini operation has a distinct place in those cases which have an enlarged middle bar obstructing the urinary flow and where from diabetes, inability to take an anaesthetic or inability to stand the shock the more radical operation is not to be advised.

309½ Upper Second St.

TRAUMATIC INJURIES TO THE EYEBALL.*

BY W. T. BRUNER M. D.,
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Generally speaking, traumatic injuries of the eye are like traumatism elsewhere, but because of the importance of this organ of vision and on account of its peculiarity of structure, there are certain features that demand special attention.

I shall begin with the cornea, since it is the most exposed

* Read before the West End Medical Society.

part of the eyeball and is therefore, particularly liable to injury. These injuries include lacerated, incised and punctured wounds; pressure injury during instrumental delivery; burn and scalds frostbite from excessive application of cold, etc.

Injuries to the cornea are generally followed by severe pain, photophobia, laceration, pericorneal injection and reduction in vision. There is a scratching sensation, leading the patient to believe that a foreign body is present. The injured eye should be examined by oblique illumination. Denuded areas can be outlined accurately by the use of fluorescein solution.

Corneal injuries are peculiarly liable to be followed by infection. This is particularly the case in the presence of dacryocystitis. Deep wounds always leave a scar, which, if located over the pupil, interferes with vision. Penetrating wounds followed by loss of the aqueous humor and sometimes by prolapse of the iris, are chiefly of interest in connection with the damage done to the iris, lens and deeper structures of the eye. Patients with corneal injuries are clamorous for relief and cocaine or alpin should be used. The conjunctival sac should then be flushed with an antiseptic solution.

Penetrating wounds of the cornea require careful treatment, lest infections occur and spread to the deep ocular structures. If a prolapsed iris is present, it should be cut off. The lodgment of a foreign body in the cornea is a common accident. The seriousness of such an accident depends somewhat on the depth to which it penetrates, but chiefly on the condition of the foreign body. If aseptic, little harm results aside from the formation of a scar when penetration has been deep; if septic, it may set up a rapidly destructive necrotic process which often ends in iritis, perforation of the cornea or panophthalmitis. Most of these foreign bodies are minute pieces which may defy recognition until after the use of oblique illumination, with or without the aid of fluorescein solution. To remove a foreign body lodged in the cornea is usually such a simple affair that some practitioners, it is to be feared, do not observe the rules of asepsis. In all operative procedures about the eye only sterile instruments should be used. The practice of removing cinders, etc., with toothpicks, knife-blades, and other unclean instruments is a prolific source of corneal ulceration.

The same varieties of traumatism that we have observed to occur in the cornea are also met within the sclera.

The first question that we have to ask in considering any such injury is, whether a perforation of the tunics of the eyeball has or has not been produced by it, and the second question as whether in case of perforation is present, there is a foreign body in the eye. The most important symptoms of the presence of a perforation of the sclera are:

1.—Reduction of intra-ocular tension. This symptom is particularly valuable in the case of small wounds in the sclera, which are concealed by the ecchymosed conjunctiva, and are hence not directly accessible to inspection. The diminution of tension, of course, lasts only as long as the wound is open.

2.—If the perforation has occurred in the region of the anterior chamber, the latter is shallower or altogether obliterated, as long as the wound remains open.

3.—In the case of somewhat larger wounds the prolapse of the subjacent structures gives evidence of the presence of a perforation. Most frequently it is the uvea which protrudes from the wound under the form of a dark mass. According to the situation of the wound, the prolapsed portion belongs to the iris, to the ciliary body or to the choroid. If the uvea is ruptured, some vitreous is often found hanging out of the wound. Very frequently, too, there are extravasations of blood in the interior of the eye. Clean cuts of the sclera and some lacerated wounds, with incarceration of part of the uveal tunic, often heal with surprisingly little reaction, and the same result may occur after loss of considerable vitreous and the lens.

Large tears in the cornea or sclera, with loss of most of the vitreous humor, and extensive damage to the choroid and retina, will call for immediate enucleation or evisceration. In case the eye is less severely injured and some vision remains the surgeon should attempt to save the organ.

The eye should be thoroughly cleansed antiseptically; protruding pieces of vitreous, iris or choroid excised, and the lips of the scleral wound, united with sterile catgut. Atropin, should then be instilled, a bandage applied and the patient

put to bed. Intra-ocular tension may rise after the closure of a scleral wound, thus causing secondary glaucoma or staphyloma. The eye may shrink, become tender on pressure and be a cause of sympathetic ophthalmitis. A foreign body may pass through the globe and lodge in the orbit or it may rest in any of the ocular structures, the vitreous chamber being a favorite location. If the body is loose, its tendency is to sink to the lower and anterior part of the vitreous chamber. While foreign substances may remain within an eye for long periods without exciting inflammation, such a state of affairs is highly dangerous. Owing to its location, to the hemorrhage, to the opacity of the lens or to the presence of inflammatory products around the missile, it rarely happens that the foreign body is visible to ophthalmoscopic examination. Consequently its presence can be determined only by the X-ray, or if the substance be iron or steel by the use of the giant magnet.

Selected Article

THE HEART IN LOBAR PNEUMONIA AND ITS TREATMENT.

BY EDWARD E. CORNWALL, M. D.,

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Short and dramatic in its course, full of the unexpected, deadliest of acute infectious diseases among adults, pneumonia has for us a never failing interest, and this interest is intensified in each case by anxiety, for we have as yet no cure. The limit of our power is to relieve or alleviate some of the symptoms. We can only watch and ward, while we wait the outcome, always doubtful, of Nature's fight with the "captain of the men of death."

The point of greatest danger in pneumonia, where we must watch and ward most zealously, is the heart. The heart is always more or less seriously disturbed by the regular conditions of the disease, and sometimes it is directly infected by the pathogenic microorganism.

Direct infection by the pneumococcus may produce acute inflammation of the heart. Endocarditis, while it may occur in any case, attacks by preference those who have scars of an old valve lesion; it is frequently of the septic or malignant type; and its physical signs are often slight or deceptive. Pericarditis is a more frequent complication of pneumonia than endocarditis; it is not usually attended with much effusion and its exudate is often purulent; it is apt to appear late in the disease; and it is often overlooked. The majority of these patients with pericarditis die, and of those who recover from the acute condition a large percentage, according to my experience, go on with chronic adhesive pericarditis. After a protracted convalescence the patient may get out of bed, but in a comparatively short time, usually not more than a few days or weeks, symptoms of cardiac weakness reappear, which increase steadily until death comes after a period usually measured in months. In eighty cases of lobar pneumonia seen by me between January 1, 1909, and July 1, 1910, acute endocarditis was noted once and acute pericarditis three times.

I will not dwell on the direct infections of the heart by pneumococcus, but proceed to discuss the behavior of that organ under the regular conditions of the disease, which is a subject of wider and more practical interest. The regular conditions of pneumonia which particularly disturb the heart are the toxæmia and the mechanical obstruction suddenly interposed in the lesser circulation by the consolidated lung.

Osler says: "The pneumococcus does not produce in artificial cultures any strong, soluble toxine, analogous to the diphtheria toxine or tetanus toxine, but its poison is contained within the bacterial cells, from which it may be extracted in various ways, or it may be set free from the dead or degenerated cocci." It is reasonable to suppose that the same conditions obtain in the human body, and that the specific toxæmia is due to the dissolution of dead pneumococci in the blood.

Besides the specific toxæmia there may be associated or secondary toxæmias. The physiological control of gastro-

intestinal affairs and the balance of power between the friendly and unfriendly bacteria in the primae viae, may be disturbed by the specific toxæmia, the fever, nervous reflexes, wrong diet, and passive congestion, permitting development and absorption of the products of intestinal putrefaction. Imperfect aeration of the blood in the embarrassed lung makes for suboxidation in the tissues and clogging of the circulation with the products of imperfect combustion. And if the circulation fails the elimination of toxins is lessened.

Interest specially centres on the specific toxæmia. What we particularly desire to know is the extent to which the specific toxæmia disturbs the heart: Does the pneumotoxine act regularly as a notable heart poison, and has it a special antipathy for the cardiac apparatus like the specific toxine of diphtheria and influenza? In the general run of cases, in the majority of cases, does the specific toxæmia cause serious disturbance or degeneration of the nervomuscular apparatus of the heart?

Facts throwing any light on this difficult and complicated subject are scarce. The following, considered together, are at least suggestive:

1. As has been stated, the living pneumococcus does not in a pure culture produce a strong, soluble toxine, and we assume the same condition to hold in the human body. We know that in many or most cases of pneumonia the pneumococcus gets into the blood. We conclude that the amount of the specific toxæmia depends on the number of pneumococci in the blood which escape the phagocytes and die a natural death; for it is from dissolution of the dead bacteria that the toxine is probably derived. This conclusion harmonizes with the observation that when there is a high leucocytosis severe toxæmic manifestations are less likely to appear than when the leucocytosis is slight or absent.

2. Clinically we are familiar with a tolerably large group of cases of pneumonia in which the heart seems to be overwhelmed by the toxæmia, and sometimes in an early stage of the disease. There is also a group, first described by Romberg and Pässler, in which failure of the heart seems to be secondary to great dilatation of the arteries, particularly in the splanchnic area, apparently caused by toxæmic paralysis of the vasomotor centre.

3. As a very rare occurrence, which may be a result of toxæmic disturbance, but is not necessarily so, we find sudden failure of the heart after defervescence, sometimes several days after, when the patient is apparently in good condition. I have seen one such case, in which the patient died suddenly from heart failure five days after defervescence. There was no discoverable cause for this accident, unless it may have been the ammonium carbonate which the patient had been taking steadily in five grain doses every four hours for over a week.

4. In perhaps the majority of cases in which there is no pre-existing myocardial weakness, we find the left ventricle maintaining an approximately normal blood pressure until after the failure of the right ventricle has diminished the supply of blood which it receives. In fact, in very many cases the left ventricle does not in its action indicate any disturbance of its muscle or nerve connections that can be ascribed to a toxæmic cause; it acts quite as well as could be expected in view of the mechanical difficulties under which its partner on the right is laboring. Witness Delafield on this point: "At about the fourth day of pneumonia we find only too often that the bronchi and lungs are beginning to fill up with mucus and serum. This is a most unfavorable symptom. The failure seems to be on the part of the right heart." Again Delafield says: "It seems to be failure of the right ventricle which causes the venous congestion and œdema of the lungs. It is curious in some cases to observe a good radial pulse at the same time with evidence of failure of the right ventricle." W. G. Thompson says: "It is a curious fact that patients in an advanced grade of cardiac valvular disease sometimes bear pneumonia much better than one would expect." The wonder in these cases is lessened if we suppose that the left ventricle suffers no toxæmic weakening; if the right heart does not fail, the left has no reason to be disturbed, provided its defective valvular action was originally compensated.

5. In a majority of cases we find that the thin walled ventricle maintains an abnormally high blood pressure, which is shown by the accentuated closure sound of the pulmonary

valves; and when the right ventricle does begin to fail we usually get such a response to stimulation as we would expect under the circumstances from a relatively sound myocardium, and not from one undergoing toxæmic degeneration.

6. Osler says: "A patient with complete consolidation of one lung may show no signs of a general infection."

The suggestion made by the foregoing facts seems to be, that while the specific toxæmia is the effective cause of heart failure in a certain proportion of cases of pneumonia, in a larger proportion, perhaps the majority, it cannot be considered a powerful primary factor in disturbing the heart. In the majority of cases of pneumonia with originally healthy hearts, the picture presented seems to resemble more a struggle against a mechanical obstruction in the lesser circulation than it does the bad action of a heart which is undergoing toxæmic degeneration and paralysis. And in the cases in which the heart does fail from intrinsic weakness instead of from exhaustion of the right ventricle by overwork, it is not always easy, as Mackenzie says, to distinguish between those due to direct invasion of the heart by the pneumococcus and those due to general infection. A partial explanation of this difficulty lies in the fact that acute pneumonic pericarditis, endocarditis, and myocarditis often exist without giving distinctive signs.

Looked at from the clinical standpoint, a closer resemblance seems traceable between pneumonia and the streptococcus and staphylococcus infections, as regards the anticardiac manifestations of their toxæmia, than between pneumonia and those infectious diseases like diphtheria and influenza, whose specific toxins are regularly serious disturbers of the heart. In a streptococcus or staphylococcus infection the local lesion, though it may be attended with constitutional symptoms, is not regularly attended with serious toxæmic heart disturbance; it is only when pronounced septichæmia occurs that the heart is apt to suffer. So in pneumonia, the pneumococcus septichæmiae, which occurs in marked degree only occasionally, seems to be the toxæmia that gravely disturbs the heart and vasomotor system.

In this conception of the heart as always overtaxed on its

right side and always in danger of failure from exhaustion of the right ventricle, and occasionally subjected to a severe disturbing toxæmia, we find our main indications for treatment, pending further developments along the line of serum and vaccine therapy, along which line hope continues to beckon in spite of disappointments. In the light of our present knowledge a case of pneumonia, from the therapeutic viewpoint, appears essentially a heart case, in which the regular problem is to support the heart until a temporary obstacle in the pulmonary circulation is relieved, and in which an occasional additional problem is to support it under the stress of a severe disturbing toxæmia. Following are a few suggestions as to how to meet these therapeutic indications:

Diminish the functional demand on the heart by absolute recumbency and quiet; make as few examinations as possible; toward the crisis, in bad cases, neglect even baths and bowel movements.

Give fluid diet, chiefly modified milk and strained gruels. The diet in this disease, whose period is usually short, need not be regulated so much with reference as to the condition of the gastrointestinal tract. It is better to starve the patient for a little while than to expose him to the dangers of indigestion, intestinal toxæmia, disturbing abdominal reflexes, and especially abdominal distention. In prolonged cases and cases of delayed resolution, however, the question of nourishment becomes more serious.

Secure sufficient sleep in the early days of the disease, by bromides and opiates if necessary, never by chloral or the coal tar sedatives, for nervous exhaustion from loss of sleep may fatally turn the scale in a critical case.

Increase the elimination of toxins, both specific and secondary, by stimulating the kidneys. These organs, though always more or less disturbed in pneumonia, are not often seriously disordered, and usually can be made to do some extra work. The best diuretic is water, which should be given in considerable, but not in excessive, quantities. When trying to flush out toxins do not forget that the work of pumping the water through the kidneys falls on the heart. In the beginning of the disease a simple saline purge, or such a purge

following a small dose of calomel, makes for lessened toxæmia; but for more than moderate catharsis there seems to be no good reason. The lessening of the toxæmia has been made a frequent excuse for unnecessary and excessive medication in pneumonia. In the regular cases maintenance of the bodily functions in as high a state of efficiency as possible seems to be the best we can do along this line, and in the cases with pronounced pneumococcus septichæmia there seems to be nothing better to do, while there are many things worse. To treat these septichæmic cases with assured success we will probably have to await the development of an effective serum or vaccine, for no drug is likely to serve the purpose. If from the beginning of the disease we keep the patient in as good general condition as possible, we minimize the likelihood of his physiological barriers being overwhelmed by the septichæmic flood.

Supply the purest air to the crippled lungs. This does not mean that every patient with pneumonia is best treated out of doors in the winter, though many patients, the young, the sthenic, and those with high fever, do well so treated. It does mean that the patient should lie in a place where the ventilation is free.

The foregoing procedures indirectly support the heart. In addition to them it is often necessary to give it direct support by stimulation.

The hearts of aged patients, alcoholics, and those with pre-existing myocardial disease, usually require stimulation from the beginning. In young adults with healthy hearts stimulation can usually wait on symptoms of cardiac insufficiency, but it should not wait too long. It is better to give it before it is needed than to lose important ground by delay. It is my custom to give no stimulation at all during the first two or three days of the disease, unless indications for it appear, but on the third or fourth day, even if the patient shows no signs of circulatory distress, it is reasonable to suppose that his right heart is beginning to get tired, and I order 1/60 grain of strychnine three or four times a day. This gentle stimulation may be all that is necessary. I increase it according to the requirements of the circulation, following especially the signs afforded by the right heart.

The most important signs of a failing right ventricle are, diminution in intensity of the closure sound of the pulmonary valve and enlargement of the right side of the heart. It is possible that weakness of the pulmonary second sound may be concealed by a near by upper lobe consolidation which magnifies its audibility. Increase to the right of the area of covered dullness is evidence of enlargement of the right ventricle only when we can exclude other reasons for it, such as displacement of the heart to the right by consolidated left lung, fluid in the left pleural cavity, retraction of the heart to the right by pleuropericardial adhesions, or pericardial effusion of considerable amount. The interpretation of extension to the right of the area of cardiac dullness is usually made easy by the contemporaneous character of the pulmonary second sound; if that has weakened along with the extension to the right of the area of dullness, dilatation of the right ventricle is suggested; and after this has taken place the radial pulse softens and increases in rapidity. Also, if there is much dilatation of the right ventricle and failure of the pulmonary circulation, cyanosis and other signs of venous stasis appear. When the heart failure is due to paralysis of the vasomotor centre there may be a grayish pallor instead of cyanosis. Functional murmurs are quite often heard, especially toward the end of the disease; they may be due to dilatation, myocardial weakness, and inco-ordination, or pressure of consolidated lung on the great vessels at the base of the heart.

In describing procedures with heart stimulants in pneumonia we are unable to lay down a programme of general application because each case has its own peculiarities. There is certainly no acute disease in which heart weakness is a frequent and prominent symptom which calls more strongly for individual treatment. Pneumonia occurs at all ages and in people with all kinds of hearts; in children and young adults whose hearts naturally possess much reserve power, and in old people in whose hearts disease conditions either obvious or latent are already present. The degree and virulence of the toxæmia varies greatly, and cannot be estimated in advance; and it has no relation to the extent of the lesion — with a small lesion a fatal pneumococcus septicaemia may

develop, and with involvement of several lobes there may be no toxæmic symptoms. The amount of obstruction in the lungs varies within considerably wide limits and cannot be accurately estimated, though we have a partial index to it in the signs and symptoms which tell of lung involvement and respiratory embarrassment.

Unable, then, to lay down any programme of general application for the stimulation of the failing heart in pneumonia, I will tell of the principal agents which I am accustomed to use according to my judgment in each case. There are other agents besides those which I shall mention which are in good use, but the ones mentioned have proved in my experience the most reliable and effective.

If more stimulation seems required than is supplied by the small amount of strychnine previously referred to, larger doses of that drug are given but not more than $1/30$ of a grain every four hours, which I believe is as much strychnine as it is advisable to give in pneumonia. If still further stimulation is needed I add tincture of strophanthus in doses of two or three minims every four hours. Strychnine and strophanthus thus given will prove sufficient in a large proportion of cases. If the right ventricle still continues to fail I add to the strychnine and strophanthus some or all of the following heart stimulants: Caffeine citrate, from two to five grains every four hours; aromatic spirit of ammonia, from half a drachm to a drachm every one or two hours; and digitalin, from $1/100$ to $1/50$ grain every four hours hypodermically. I usually give whiskey in small or moderate doses to aged patients and those with an alcoholic history; sometimes I give it in severe cases to young or middle aged adults, especially if they show marked toxæmic symptoms or high fever. Of late years I have used alcohol sparingly in both pneumonia and typhoid fever, holding a poor opinion of its value as a heart stimulant, and a high opinion of its ability to disturb the physiological and bacteriological conditions in the gastrointestinal tract. But I cannot shake free from the notion that in some cases of those diseases it does good.

The stimulation of the heart produced by the sum total of the medication I have mentioned is probably as much as can

be given with advantage in any case and more than some will bear. The danger of exhausting the heart by overstimulation should always be borne in mind. Only a limited amount of work can be got out of the laboring right ventricle in any particular condition, and the danger of exhausting it by overstimulation is quite as real as that of its becoming exhausted by straining against the obstruction in the lungs, or of its failing on account of acute toxæmic degeneration or vasomotor paralysis. The ancient precept that the heart cannot be stimulated too much at the time of the crisis must not be taken too literally; it can be, and no doubt it often is. Yet the temptation to extreme, to excessive measures of stimulation is great when we find irregularity of the radial pulse before the crisis, or an increase of the pulse rate to 140 or more, and a steadily dilating right heart.

In cases of vasomotor paralysis hot rectal irrigations and hypodermoclysis appear to be rational treatment; and in these cases, if anywhere, adrenalin would seem to be indicated.

In a discussion of the heart stimulants used in pneumonia, morphine should receive mention, and special mention. It is often a lifesaving drug in pneumonia, as it is in many other heart conditions. It can be used early in the disease to allay pain and restlessness and thus conserve cardiac strength, lack of which might discount recovery. Given later in the disease it enhances the good effect of the other heart stimulants by quieting nervous reflexes, and particularly by diminishing the irritation of the oxygen hunger and also the need for oxygen, thereby lessening the work of the heart. In doses of from $1/16$ to $1/6$ of a grain, *pro re nata*, or every four hours, given hypodermically, it will often tide over a doubtful case. If given in the larger doses atropine may be combined with it, especially if the bronchi are filling up with mucus and serum. Atropine should be given with caution in pneumonia; its sphere of usefulness in this disease is not very great, and it may produce cerebral disturbances.

In connection with the behavior of the heart in lobar pneumonia a brief allusion may be permitted to the circulatory conditions at the beginning of the disease and the therapeutic possibilities which may exist in this stage. In this stage, which

is one of congestion, before the air spaces have filled with inflammatory exudate, is it possible to abort or favorably modify the course of the disease? This question has been much debated, but no generally accepted positive conclusion has been reached. The therapeutic suggestions along this line which seem worthiest of attention are based on the theory that the congestion in the lungs may be diminished, and the circulation in the congested area rendered more free, by the use of circulatory sedatives. The analogy of the action of aconite in checking an acute coryza in its first stage presents itself here. If I am able to begin the treatment of a case which I suspect to be pneumonia within twenty-four hours after the initial chill, and the patient's heart is sound, I usually give frequent small doses of aconite, on the possibility that it may do good, being sure that it will do no harm. This treatment is not kept up after the second day.

CONCLUSIONS

In this short paper topics of great importance have been passed over with scant discussion, but the paper will have served its purpose if it has brought out the following points:

The specific toxine of pneumonia does not seem to be regularly a serious disturber of the heart in the sense that the toxins of diphtheria and influenza are such.

Sometimes a severe toxæmia, which appears to be a pneumococcus septicæmia, is observed in pneumonia, which seriously or fatally poisons the cardiac apparatus or paralyzes the vasomotor centre.

A constant, and on the whole the most important, cause of heart disturbance in pneumonia seems to be the mechanical obstruction in the lesser circulation caused by the pulmonary consolidation.

The prevention of toxæmic complications is best effected, pending further developments in serum and vaccine therapy, by maintaining the bodily functions in as high a state of efficiency as possible, particularly the function of the kidneys.

From the therapeutic viewpoint a case of pneumonia appears essentially a heart case, in which the problem is to support the heart until the obstruction in the pulmonary cir-

enulation has been relieved.

Direct support of the heart by stimulation should not be delayed too long in pneumonia: the amount of stimulation should be regulated not only by the requirements of the circulation, but also by the capacity of the heart to respond; and the dangers from overstimulation should be kept in mind.—*New York Medical Journal.*

Society Preceedings

AMERICAN PROCTOLOGIC SOCIETY.

Twelfth Annual Meeting, held at St. Louis, Mo.

(Continued from page 100.)

"A REPORT OF A CASE OF POST-OPERATIVE DELIRIUM."

By Samuel T. Earle M. D., Baltimore, Mld.

The author stated that while post-operative delirium was quite common before the days of antiseptic surgery, it was due then in the majority of cases to septic infection. The condition is rare now, except when due to shock, and then only as a result of a grave operation.

The minor character of the operation preceeding the attack in the present case makes it more interesting, which is doubtless accounted for by the age of the patient.

Case:—Dr. A. T., aged 78, had suffered with hemorrhoids since before the Civil War (1861), but had persistently determined not to be operated upon. Early in May, 1910, they became thrombosed and inflamed, at which time he consented to an operation.

The usual hypodermic of 1/6 of a grain of morphine, atropine 1/120, and strychnine sulphate 1/30, was administered prior to the anesthetic. Fearing the effect of ether or chloroform, on account of his age, it was decided to administer a mixture of nitrous oxide gas and oxygen. This mixture did not keep him thoroughly anesthetized, consequently the operation was not completed as quickly as usual and as a result there was more blood lost, which did not exceed two or three ounces.

The operation was completed, he regained consciousness in a few minutes, but almost immediately became very excited and delirious. Thinking this might be due to pain, $1/4$ of a grain of morphine was given at the end of two hours from the time he received the first hypodermic; a third dose was given at 8 p. m., three hours following the second dose. The patient continued very delirious during the night and for three days following. The second and third nights we were able to quiet him for a few hours by hyoscine hydrobromide grain $1/50$, and morphine $1/6$ administered hypodermically. For the remainder of the first week, the hyoscine hydrobromide $1/50$ was sufficient to give him a quiet night, but the delirium continued for one week from the time of the operation, but not nearly so active as during the first few days and with some lucid intervals. His temperature did not exceed $99\frac{1}{2}$ the first three days, but on the fourth it reached 100.5 and again on the seventh day, for a short time without any apparent cause, otherwise the patient made an excellent recovery, and was able to be about the house in about ten days after the operation.

"APPENDICOSTOMY."

A CONSIDERATION OF THE PRESERVATION OF THE BLOOD-SUPPLY OF THE APPENDIX IN THE TECHNIQUE OF THE OPERATION.

By Frank C. Yoemans, M. D. New York City.

Case:—Mrs. X. was operated upon March 21, 1908, for ulcerative colitis. While performing the appendicostomy, one of the cecal vessels going to the appendix was punctured and tied. Three days later the appendix sloughed and a fecal fistula formed. The colon healed with irrigations, the fistula closed and the patient is well today as regards her bowel. This experience and similar experiences of several colleagues led the writer to a study of the circulation of the appendix from a surgical standpoint.

Embryology shows the appendix to be the vestige of the original head of the cecum which failed to participate equally

in development with the rest of that organ; and at an early period of embryonic life, not possessing a mesentery, derived its sole blood-supply from the cecal vessels. The latter statement is true of the rudimentary and the fetal forms of appendix, even in adults. For all practical purposes the sole blood-supply of the veriform appendix is from the posterior ileo-cecal artery through (a.) its cecal branch, which sends one or more twigs to the appendix, and (b) its appendicular branch, which runs in the free border of the meso-appendix, sending several (usually 3-5) branches to the appendix. The cecal branch is constant and courses along the appendix on its mesenteric side, anastomosing with branches of the appendicular. Dissections of a number of injected subjects, by the writer, demonstrated this arrangement of vessels to be practically invariable. As these vessels are by nature terminal in character, there at once became evident the importance of preserving both branches at operation, if the vitality of the appendix is to be maintained entire.

No trouble is experienced in avoiding the cecal vessels when uniting the cecum adjacent to the base of the appendix to the parietal peritoneum, as they indicate their position by visible pulsation. With the mesenteric branches it is different. Most appendices are valveiform and one must free the mesentery in order to straighten the lumen sufficiently. There are two ways of accomplishing this: One is to ligate and cut the mesentery, at a point far enough from the base of the appendix that the blood-vessels are preserved to that part of the appendix traversing the abdominal wall. The tip beyond the skin dies and infection is apt to extend between the appendix and abdominal wound, hence this procedure is objectionable.

The other method, here advocated and in practice found successful, preserves the arteries intact and consequently the vitality of the entire appendix. It is accomplished by separating the two layers of the mesentery at its juncture with the posterior mural peritoneum, beginning at its free border, and carefully displacing the cellular tissue with its contained appendicular artery and branches, as far as necessary toward the appendix. The two layers of peritoneum are then divided transversely to the base of the appendix, turned in and sewed, to obliterate the raw space on the posterior abdominal wall.

Experience teaches that it is unnecessary to test the patency of the appendix, until the wound has healed, i. e. in 4—5 days.

Further precautions are not to obliterate any arteries by forceps, ligatures, sutures, torsion or tension, in fixing the appendix in a position where it does not rest naturally, or by closing the wound too snugly about it.

By following this technic, the operation is without mortality and post-operative leakage of feces and hernia—the two troublesome sequelae of appendicostomy, are avoided. Appendicostomy should continue to grow in favor over cecostomy in all cases where prolonged irrigation of the colon is indicated.

Medicine and the Law

“SUGGESTIVE THERAPEUTICS” IS PRACTICING MEDICINE.

In a recent New York case the Supreme Court, Appellate Division, was presented with the question: Does practicing “suggestive therapeutics” without a license fall within a statute making it a misdemeanor for one not lawfully authorized to practice medicine? In the case entitled *People v. Mulford*, 125 New York Supplement, 680, it appeared that defendant had an office, where he received patients, and treated them for physical ailments; that he gave no medicine, and prescribed none; that he performed no surgical operations and used no instruments; that his entire treatment consisted of the laying on of hands, manipulation, breathing, and rubbing; and that his treatment was beneficial to his patients. Defendant contended that he could do no harm, if he did no good, and he should therefore have been permitted to practice his calling without interference, and that, if the statute included his profession, it deprived him of a legal right to carry on a proper business, and was therefore unconstitutional. The court holds that “suggestive therapeutics” is within the defi-

nition of "practicing medicine," and that the statute is constitutional. Judge Williams, as organ of the court, says: "A patient may often suffer as well from a failure to prescribe proper remedies, or afford surgical relief promptly, as from making improper prescriptions, or performing unskillful operations. A physician who holds himself out to treat patients for physical ills should know whether to do anything, and what to do, to relieve his patients; otherwise, he should not be permitted to practice, and impose upon the unfortunate sufferers who, like the poor, are always with us, and many of whom need the protection of the State against quacks in and out of the profession of medicine." The judgment imposing a fine of \$100 was affirmed.

PRAYING IS NOT PRACTICING OF MEDICINE.

The statute of California contains an act for the regulation of the practice of medicine, concluding with a proviso "that nothing herein shall be held to apply or to regulate any kind of treatment by prayer." In *Ex parte Bohannon*, 111 Pacific Reporter, 1039, the validity of the statute is assailed on a claim that the exemption quoted makes the whole act unconstitutional, because it gives to those who treat physical ills by prayer privileges and immunities not granted to all citizens. The Court of Appeals holds that, if this can be regarded an immunity, the act allows every person such immunity, for every one has the same privilege of practicing such treatment, so the statute is not unconstitutional. Quoting the Court: "It has been said 'More things are wrought by prayer than this world dreams of.' Those who believe in the teachings of Holy Writ attach great importance to the efficacy of prayer. Many examples of it are given in the New Testament. For instance, where Peter's wife's mother lay sick of a fever we are told that the Saviour 'touched her hand and the fever left her, and she arose and ministered unto them.' The proviso or exception was evidently put into the act to prevent any interference with the right of any one to pray for the sick and afflicted."—West Law Publisher Bulletin.

Recent Progress in Medical Science

THE WASSERMANN REACTION.

A preliminary report on fifty-seven cases of syphilis treated from the standpoint of the Wassermann reaction is given by B. C. Corbus, Chicago (*Journal A. M. A.*, September 3), which comprises two years' experience with the method. For convenience, he divides the cases into two groups, the first comprising new cases in which the patients were treated entirely after the biologic method, and the other, old cases in which the patients had been treated before this method was used. He also adds a third group of apparently cured patients who have been treated by the method. In the first group he mentions cases of chancres before the Wassermann reaction was positive. In this series there were seven cases. In five, excision was employed. One other could not be removed without excessive loss of tissue, and one was treated locally with calomel. The treatment was energetic; except for a few injections, rubbing and internal treatment were the rule. Corbus still believes in excision, but mentions the danger to the operator. He believes that relapses would be fewer and our success greater with the disease treated early before saturation of the body with the spirochetes. In this series the four cases that have remained with the negative Wassermann reaction have shown no signs of syphilis. One patient relapsed; two patients disappeared after three months' treatment, but up to that time had not had even an adenopathy. There were eleven patients in the first group where early secondaries had appeared and the blood test was positive; seven of these became negative. The other four would not or could not take continuous treatment. Of the second group, treated previously, before the biologic method, there were thirteen patients, all but two had had external manifestations within a year, and the infections dated from three to eight years prior to observation. Twelve patients have continued treatment; one dropped out. Of the twelve who have continued, a negative Wassermann reaction has been obtained in only the two ex-

exceptional cases mentioned. The others had been inefficiently treated and were saturated with the spirochete. There were fifteen latent cases in which the patients gave typical specific history, but had been free from signs of the disease for three years or longer. All gave a positive reaction. In seven of these, a negative reaction was obtained, but four relapsed. One discontinued treatment, and in the remaining seven the negative reaction was not obtained. There were two cases of tertiary disease. In both patients treatment was without good results. Two patients with congenital syphilis were treated, one of whom showed a negative reaction after treatment, but the other remained positive. In the apparently cured patients, a negative reaction was obtained in all. Corbus advises treatment continued after the negative goal is reached, for how long the future will have to decide. Stopping treatment at the first negative reaction is ineffective.

DESMOID TUMORS.

R. Morrison and H. Drummond (*Lancet*, 1910, 1336) say that there are certain tumors—desmoids—originating in the abdominal wall, chiefly in the upper half of the rectus muscle, but also in connection with the other muscles, which are of considerable clinical importance. They are likely to be mistaken for growths in the abdomen, unless the possibility of their occurrence is remembered. Their association with pregnancy is so frequent as to constitute more than a coincidence. Possibly traumatism, by muscle stretching or tearing, is of etiological significance. A firm, but not tender, sausage-shaped tumor, possessed of some mobility, across but not in the direction of the fibers of the relaxed muscle with which it appears to be associated, becoming fixed when that muscle is made tense and occurring in a woman recently pregnant, is a desmoid tumor. The treatment is to excise the growth at once, along with a free margin of the surrounding structures, including the peritoneum underlying it. They report seven illustrative cases.

MOVABLE KIDNEY.

The technic of extracapsular nephropexy is given in detail by C. A. L. Reed, Cincinnati (*Journal A. M. A.*, September 17), with explanation of the special peculiarities of certain steps of the method. He calls attention especially to the separation of the capsula adiposa from its relations to the abdominal wall to the extent that such relations may have survived the destruction. Special care must be taken not to separate the capsule from the tunica fibrosa, and he calls attention, as a guide in the operation, to the connective tissue striæ which form the stroma and which must not be separated from their attachment to the tunica fibrosa. Longyear, of Detroit, was the first to describe these striæ as comprising a distinct and significant structure. After removal of the fat from the renal fossa these striæ are divided and the upper segment is attached above the incision and the lower below it, since they are in such intimate connection with the cecum on the right and the sigmoid on the left that they may and probably do become the media of traction by the loaded or replaced bowel on the kidneys and therefore a positive etiologic factor in the descent of the kidneys. While the kidney is thus protected from traction, however, care must be taken not to deprive either the cecum or the sigmoid of the suspensory power that may inhere in this anatomic arrangement. It is important, therefore, that the lower segment of these striæ shall be attached to the lower margin of the operation wound. Vigorous friction of the tunica fibrosa above the zone covered by the adherent striæ, especially on the posterior surface of the kidney, and carried to the point of inducing punctate hemorrhages, is made in order to provoke an abundant exudate which will cause adhesion to the abdominal wall. Reed does not think that anything further than this is necessary. The whole operation is extracapsular, which, so far as his experience goes, is always, a practical method, coming nearer than any other procedure to restoring the pathological movable kidney to its normal anatomic relation and to the natural exercise of its normal function. Decapsulation, transfixion sutures, irritants to cause adhesions, etc., are liable, in his opinion, to induce undesirable pathologic conditions and final failure.

MALIGNANT SKIN GROWTHS.

J. A. Fordyce, New York (*Journal A. M. A.*, November 5), takes up the subject of the etiology of skin cancer and says that its study, while it does not absolutely demonstrate the fact, indicates a multiple etiology. Epithelioma developing from X-ray and sunlight or other radiant agency, forms a strong argument against the parasitic nature of the disease, and the occurrence of epithelioma in eroderma pigmentosum and like conditions of the skin coming on in old age or middle life, also points the same way. Further, he states that the action of chemical substances on epithelioma, such as arsenic, tar, tobacco, etc., show that a variety of agents have the power to stimulate epithelial mitoses which may pass into malignancy. Cancers which develop on scar tissue or antecedent skin disease, like lupus, syphilis, etc., suggest that we are dealing with misplaced cells in some cases and in others, in degenerative processes impairing the functional activity of the cells, followed as a consequence by vegetative activity, according to the theory of Oertel, Adami, and others. In primary multiple epitheliomata we have several foci in which an infectious agent or some internal sensitizing agent may have acted on the cells and rendered them susceptible to a local factor. The article is fully illustrated.

DIAGNOSIS OF NASAL DIPHTHERIA IN NEW-BORN CHILDREN AND NURSINGS.

Blochmann (*Berl. Klin. Woch.*, Oct. 31, 1910), says that the commonest location for the occurrence of diphtheritic membrane in your babies is the nasal mucosa. The appearance of the infant is generally quite characteristic. Fibrinous masses appear at the nostrils and may even hang down over the upper lip. In some cases there is only an irritating discharge from the nostrils, but if the tip of the nose be pushed up we are able to see the membrane inside the nostrils. The examination is made with the child lying down; the entire half of the nasal cavity may be seen, part of the floor, and the anterior third of the septum. The favorite location for membrane is the septum

The author is of opinion that we should make a rhinoscopic examination of every case of nasal discharge in a young baby during an epidemic of diphtheria.

A CONSIDERATION OF SURGICAL METHODS OF TREATING HYPERTHYROIDISM.

Charles H. Mayo, Rochester, Minn. (Medical Record, December 30), says that the glands of elimination are provided with an intermittent discharge, and among these is the thyroid. It is difficult to estimate the amount of hypersecretion; the entire absence of secretion might occur and be compensated by other glands of associated function. One can hardly tell the amount of oversecretion that can be neutralized by other glands. The author's observations cover over 2,000 cases operated on, and it is evident that the amount of disease in the gland varies much as to the appearance of symptoms. Goiter may be a reversion to a former function of the gland; hyperthyroidism is a toxemia due to absorption of thyroid secretion. The stimulus may be the same as was present in primitive man; this was then a normal stimulus; it will still be present in food or water, be formed through some process in the intestine, result from metabolism, or exist in the air. The types of goiter are but stages in a general process. Goiter may be classified as to aetiology, into cystic, chronic, parenchymatous, hypertrophic, papillary cystic goiter, hypertrophic fetal goiter, and fetal adenoma of the thyroid. The operative mortality in surgical treatment of simple goiter is very low; in hyperthyroidism it is quite a different matter. This condition often causes death or invalidism. If fatal, death occurs within a few weeks of the beginning of the disease; seldom does it progress slowly to death. The ligation of vessels, nerves, and lymphatics seems to cause a reversion to simple goiter. Early cases may be treated thus; serious cases with degeneration of heart, liver and kidneys, are also benefited by this operation, there being a gain in weight immediately. Over 1,100 patients operated on at St. Mary's Hospital show mortality after ligation of 37/10 per cent.; after extirpation of 39/10 per cent.; about 70 per cent. of the patients consider themselves cured.

Book Reviews

A TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph. D., Professor of Bacteriology, in the University of Chicago and in Rush Medical College. Second revised edition, octavo of 594 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$3 net.

This book, although of special interest to the student of medicine and the practicing physician, is not limited in its usefulness to the medical profession. As a work on general bacteriology bearing also on the technical relation to agricultural, industrial and technical pursuits, it will prove helpful to the general scientific student.

In the preparation of this new edition recently acquired data of reported observations have been incorporated in the text. That anaphylaxis, the Wasserman reaction and Ehrlich's receptor theory have not been treated of as fully as in special treatises is no adverse criticism of a book whose general scope is as broad as this one. The fundamental principles of bacteriology are fully treated, yet no pretense has been made to enter very deeply into the technique of laboratory methods. After the consideration of the pathogenic microorganisms follow chapters on the bacteriology of milk and milk products, bacteria and the nitrogen cycle, bacteria in the arts and industries, bacteria of the air, soil and water, and bacterial diseases of plants, concluding with an interesting chapter on infectious diseases of unknown causation.

Throughout the text are found numerous bibliographical references that he who reads may further investigate.

THE PRACTICAL MEDICINE SERIES, under the general editorial charge of Gustavus P. Head, M. D., and Charles L. Mix, M. D. Volume ix. Skin and Venereal Diseases, Miscellaneous Topics; edited by W. L. Bamm, M. D., and Harold N. Moyer, M. D. Pages 245, illustrated. Cloth, \$1.25. The Year Book Publishers, Chicago.

This series comprises ten volumes on the year's progress in medicine and surgery, each volume being complete for the year prior to its publication on the subject of which it treats. Although the publishers have intended the series for the general practitioner, the arrangement in volumes enables those interested in special subjects to buy only the parts devoted to their special line of work. This particular volume in the first section reviews the recent literature on constitutional relation of the dermatoses; the special dermatoses; the therapy of dermatoses; radiotherapy and actinotherapy; gonorrhea and chancre; syphilis and allied diseases; and genitourinary medicine and surgery.

Among the miscellaneous subjects briefly considered are medical education and the history of medicine; Darwinism and medicine; life insurance; and vivisection.

INTERNATIONAL CLINICS; A Quarterly of illustrated Clinical Lectures and especially prepared Original Articles. Edited by Henry W. Cattell, A. M., M. D., Vol. IV. Twentieth Series, 1910. Cloth. Pages, 308. J. B. Lippincott, Company, publishers. Philadelphia and London.

In this last volume of the twentieth series are the following contributions: Ehrlich's New Preparation, Arsenobenzol, in the Treatment of Syphilis, by Henry W. Cattell, M. D.; True Syphilitic Iritis Treated with Ehrlich's "606," by G. E. De Schweinitz, M. D.; Further Contributions on the Treatment of Leukemia by the Röntgen Rays, by Henry K. Pancoast, M. D.; The Methods of Examining the Blood of Greatest Importance for the General Practitioner, by Lewellys F. Barker, M. D.; Functional Tests of Cardiac Efficiency, by Arthur D. Hirschfelder, M. D.; Cholera Nostras—Cholera Asiatica, by S. R. Klein, M. D.; Congenital Syphilis Simulating Leukemia and Splenic Anemia, by Alfred S. Warthin, M. D.; Transfusion of Blood Employing Only eins, by George M. Dorransch, M. D.; Technique, Aims, and Limitations of Spinal Anaesthesia in the Young, by H. Tyrrell Gray, M. C.; Surgical Tuberculosis of the Joints and the Effects of Surgical Treatment, by James K. Young, M. D.; Retrocecal Appendix, by Daniel N. Eisen-drath, M. D.; The Management of Four Kinds of Appendicitis, by Robert T. Morris, M. D.; Colectomy for Obstinate Consti-

pation; Appendicitis, by A. J. Ochsner, M.D., Traumatic Neuroses, by Arthur D. Bevan, M.D., and Differential Diagnosis Between Epilepsy and Hysteria and Their Mutual Relationship, by Theodore Diller, M.D.

A MANUAL OF DISEASES OF THE NOSE, THROAT, AND EAR. By E. Baldwin Gleason, M. D., Professor of Otology at the Medico-Chirurgical College, Philadelphia. Second revised edition. 12mo. of 536 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company, 1910. Flexible leather, \$2.50 net.

This is a careful revision of the first edition. Most of the sections have been rewritten and changed in accordance with the most recent advancement in this special field. The details of examination and diagnosis of the nose, throat and ear conditions are minutely described. The methods of medicinal and operative treatment advised are only such as have proven efficient in the author's own experience. There is at the close of the book a formulary which is not a mere catalogue of prescriptions. It is interpolated by a description of the local therapeutics of all drugs mentioned in the text and of the better methods of their use.

It is an excellent manual for the student and will help the general practitioner to do his own special work.

PRIMER OF HYGIENE. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Hermann Heyer. Cloth. Price, 10 cents net. Pages, 181, with 113 illustrations. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

In simple language the authors give the school child the elementary facts of hygiene that every person should know to keep the body in a healthy state. The use in every school-room of such books on personal hygiene would undoubtedly prevent much sickness. The text gives the ten-year-old child an intelligent understanding of the human body and the great laws of health, of the importance of exercise and habit, of the care of the eyes and ears and the keeping up the re-

sistance of the body to disease germs. The illustrations, 113 in number, will strikingly impress the young mind.

THE CARE AND TRAINING OF CHILDREN. By Le Grand Kerr, M. D., author of "Diseases of Children, etc. Cloth. Price, 75 cents net. Pages, 233. New York: Funk & Wagnalls Co., 1910.

The practicing physician will find a mine of useful and interesting facts in Dr. Kerr's book. He has condensed the best of many years' experience and observation as a physician, together with the more intimate observations of many parents, who, under his appreciative eye, have made a study of the subject. He has not sought to elaborate a system of training, and imprint thereon his own theories, but has rather reflected in a series of delightful monographs the matured experience of the many. There is scarcely a feature of child training, hygienic, physical, mental, moral, that is not considered; and when one has read the various chapters there seems to be nothing more that could be said to cover the problem.

BOOK ACKNOWLEDGMENTS.

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY OF HEAD AND NECK FOR STUDENTS, SURGEONS AND SPECIALISTS. By Hubertus J. H. Hoeve, M. D., Professor of Anatomy in the Medical and Dental Colleges of Drake University. Illustrated with 51 original half-tone engravings. Cloth. Pages 626. Des Moines, 1910.

INEBRIETY; A CLINICAL TREATISE ON THE ETIOLOGY, SYMPTOMATOLOGY, NEUROSIS, PSYCHOSIS AND TREATMENT AND THE MEDICOLEGAL RELATIONS. By T. D. Crothers, M. D., Superintendent Walnut Lodge Hospital, Hartford, Conn. Cloth. Pages 365. Harvey Publishing Company, Cincinnati, Ohio. 1911.

A BRIEF REVIEW OF APPLICATIONS OF ROENTGEN RAYS IN DIAGNOSIS. By E. W. Caldwell, M. D. Reprint.

GANGRENE OF THE LEG FOLLOWING DIPHTHERIA. By J. D. Rolleston, M. D. Reprint.

- THE BLUES (SPLEENIC NEURASTHENIA) CAUSES AND CURE. By Albert Abrams, A. M., M. D., Consulting Physician, Denver National Hospital for Consumptives, the Mount Zion and the French Hospitals, San Francisco. Fourth edition, revised and enlarged. Cloth. Illustrated. Pages 295. Price \$1.50 net. E. B. Treat and Company, New York, 1911.
- COMPEND OF GYNECOLOGY. By William Hughes Wells, M. D., Associate in Obstetrics in the Jefferson Medical College; Assistant Obstetrician in the Jefferson Medical College Hospital. Fourth edition, revised and enlarged with 153 illustrations. Pages 290. Cloth. Price \$1.00 net. P. Blakiston's Son & Company, Philadelphia, 1911.
- TRANSACTIONS OF THE FOURTH INTERNATIONAL SANITARY CONFERENCE OF THE AMERICAN REPUBLICS. Held in San Jose, Costa Rica, December 25, 1909, to January 3, 1910. Cloth. Pages 209. Published and distributed under the auspices of the Pan American Union. John Barrett, Director-General, Washington, D. C., 1910.
- REPORT ON AN OUTBREAK OF TYPHOID FEVER AT DES MOINES, IOWA, IN 1910. By L. L. Lumsden, Passed Assistant Surgeon U. S. Public and Marine Hospital Service. Government Printing Office, Washington, 1911.
- DISINFECTANTS, THEIR USE AND APPLICATION IN THE PREVENTION OF COMMERCIAL DISEASES. By Thomas B. McClintic, Passed Assistant Surgeon, U. S. Public Health and Marine Hospital Service. Prepared by direction of the Surgeon General. Government Printing Office, Washington, 1911.
- HEREDITARY HYPOPLASIA IN MAN, DUE TO DEGENERACY. By Charles P. Noble, M. D. Reprint.
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In the use of elastic bandages and stockings for varicose veins the patients should be directed to remove them on retiring, and reapply them in the morning before leaving the bed.

A uniform enlargement of one buttock, developing spontaneously and not of subcutaneous origin, is probably due to a subgluteal lipoma. Here, too, however, a hydroma must be thought of—*American Journal of Surgery*.

Miscellany

PRACTICAL GLEANINGS.

Attacks of pain on the right side closely resembling renal colic and associated with hematuria may be due to appendicitis.

If a foreign body impacted in the auditory canal(especially if symptoms suggest that it has entered the middle ear) resists safe efforts at removal, administer narcosis, turn the ear lobe forward and open into the canal by a free incision from behind. This procedure, which is simple and leaves only invisible scars, is a very old one, but it is often forgotten.

Don't think your patient has no stricture because a large sound will pass into the bladder. Examine with the bougie a bouie and you will often find one or more strictures, when removing this instrument even though the urethra will admit a large sound.

If during an operation for appendicitis the cecum or ileocecal junction ruptures the bowel is profoundly diseased, as by sarcoma, ulcerative typhlitis, etc.

Don't forget that a discharge in chronic gonorrhea may be due to overtreatment. Stop for a time and watch the result.

When seeking the cause of an obscure or indefinite abdominal pain, and especially of a pain in the loin, making a careful microscopic examination of the centrifugalized urine. Renal calculi sometimes cause only mild, irregular pains, and the finding of a few red blood cells in the urine may be the first clue to their presence.

The bladder, when partially paralyzed from parturition, or any other cause, can always be made to empty itself perfectly by throwing a large amount of very warm water into the bowel, thereby doing away with the necessity of using a catheter—a most important consideration, particularly when the patient lives at a distance from the doctor.

NEWS ITEMS.

At the meeting of the Jessamine County Medical Society, held in Nicholasville, Dr. Thomas R. Welch was elected President; Dr. Daniel A. P. Lenick, Vice President, and Dr. J. A. Van Arsdall, Secretary-Treasurer, all of Nicholasville.

It has been arranged by the State Board of Control of Charitable Institutions to install in the Central Kentucky Insane Asylum, at Lakeland, a moving-picture machine for the amusement of the inmates.

Dr. W. Ed Grant, City Health Officer of Louisville, has undertaken the crusade against the spitting nuisance. With the entire department at his command the anti-spitting ordinance will, it is believed, be rigidly enforced.

Dr. Charles M. Garth, of Louisville, has gone to Omond, Florida.

The Hospital Commission has awarded to D. X. Murphy & Bro., of Louisville, the architectural work for the new City Hospital. Mr. Louis L. Curtis, who was recently appointed consulting architect, is now with Mr. J. C. Murphy visiting such hospitals of the country as favorably impressed the Commission, which made a similar trip some time ago.

Dr. George Leachman, of Louisville, has returned from Texas after a week's absence.

Dr. B. F. Zimmerman, of Louisville, sustained a fracture of the forearm while cranking his automobile.

Dr. Charles W. Hibbitt, Dr. Virgil E. Simpson, Dr. Irvin Lindenberger and Dr. Dunning Wilson have returned from Frankfort, where they attended a meeting of the officers of the Kentucky State Guards.

Dr. R. Hays Davis, of Louisville, has gone to New York for a month's stay.

Dr. B. Segui O'Brien and Dr. Davison Ray have returned to Louisville from Bingham Canyon, Utah, where they have made their home for the past year.

Dr. W. F. Boggess, of Louisville, has returned from a three weeks' trip in Florida.

Dr. Ben. L. Bruner, Secretary of State, spent several days in Louisville on business.

Dr. F. B. Norton, of Louisville, while cranking his machine, had his right arm badly bruised.

The General Council of Henderson passed an ordinance providing for medical inspection of the public school children and for the appointment of an inspector by the School Board, whose duty it shall be to look after the sanitary condition of the school rooms.

Dr. H. D. Rodman, of Louisville, has returned from Springfield, Ky.

Dr. J. F. Taylor, of Louisville, has returned after spending several days in Lagrange.

Dr. Frank C. Green, of New Albany, has gone to Washington to visit his son, who is connected with the Government Geological Bureau.

Dr. M. K. Allen, of Louisville, has gone to New Orleans for a short stay.

Dr. Palmer and Mrs. Palmer, of Prospect, spent a week at Deer Park.

Dr. Alexander Shirley, of Greensburg, visited in Campbellsville.

Dr. George M. Shaunty, of Louisville, visited his mother in Springfield.

Dr. Frank Adams, of Bagdad, was in Louisville for a brief stay.

Dr. Frank Strickler, of Elizabethtown, spent several days in Louisville.

Dr. Wayne H. Crum, of the United States Army, has returned from Manila to visit his parents at his former home in Jeffersonville.

Dr. Edmund D. Wells, of Mt. Sterling, has gone to Prospect, Ky., to locate.

DEATHS.

Dr. L. B. Chilton, of Guthrie, aged 70 years.

Dr. J. W. Barlett, of Kirkmansville, aged 79 years.

Dr. Francis M. Greene, of Lexington, aged 77 years.

ALLOPATHY.

Medicine, some times impertinently, often ignorantly, often carelessly called "allopathy," appropriates everything from every source that can be of the slightest use to anyone who is ailing in any way, or likely to be ailing from any cause. It learned from a monk how to use antimony, from a Jesuit how to cure ague, from a friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairy maid how to prevent smallpox, and from an old market-woman how to catch the itch insect. It borrowed acupuncture from the Japanese, and was taught the use of lobelia by the American savage. It stands ready today to accept anything from any theorist, from any empire who can make out a good case for the discovery of his remedy.—Dr. Holmes.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton" March 6, 13, 20 and 27.

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| DR. V. E. SIMPSON..... | President |
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LOUISVILLE CLINICAL SOCIETY; meets at the Galt House March 14 and 28.

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|----------------------------|----------------|
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| DR. ARGUS D. WILLMOTH..... | Treasurer |
| DR. G. B. JENKINS..... | Vice President |
| DR. H. J. FARBACH..... | Secretary |

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House March 2.

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| DR. W. A. BOLLING..... | President |
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| DR. RICHARD T. YOE..... | Treasurer |
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LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club March 16.

| | |
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| DR. C. G. HOFFMAN..... | President |
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| DR. CHAS. W. HIBBITT..... | Treasurer |
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MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club March 3, 17 and 31.

| | |
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| DR. J. GARLAND SHERRILL..... | President |
| DR. J. ROWAN MORRISON..... | Vice President |
| DR. FRANK C. SIMPSON..... | Secretary and Treasurer |

WEST END MEDICAL SOCIETY; meets at the Old Inn March 14.

| | |
|--------------------------|-------------------------|
| DR. I. A. ARNOLD..... | President |
| DR. H. L. READ..... | Vice President |
| DR. JOHN K. FREEMAN..... | Secretary and Treasurer |

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Stanford, Ky., April 20, 1911.

CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., April 13, 1911.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., May 10, 1911.

SOUTH WESTERN MEDICAL ASSOCIATION; meets in Paducah, Ky., May, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Versailles, Ky., April 14, 1911.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., 1911.

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., June 27-30, 1911.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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Editorial

THE COMMON DRINKING CUP.

Danger lurks on the brim of the common drinking cup used on trains, in schools and in public places. Scientific data is not lacking to indisputably prove that tuberculosis and syphilis are transmitted through its indiscriminate use. Nor is the common communion cup immune; the positive tests of Moller and the conclusive experiments of Fournier demonstrate its peril to health. Surely the sacrament cannot be the less hallowed if partaken from individual cups, and that they supplant a sacred custom is no valid objection to its discontinuance, for what custom is more sacred than life? Cleanliness has ever been next to godliness, so even in church the common cup cannot justify itself.

It is said that the danger of infection was the reason why the Roman Catholic Church at one time withdrew the communion cup entirely from its parishioners.

It does seem true that Sentiment is ever ready to take chances—witness the reckless use of the banquet loving-cup; witness the old method of taking the oath by kissing the Book, soiled by lips of those diseased.

Humanity would be spared much if with these customs would be banished the roller towel, the waiters's napkin and the common sugar-bowl in restaurants.

Every year seventeen hundred people die of preventable diseases, one of every sixty persons has tuberculosis, one per cent. of healthy persons harbor true diphtheria bacilli on their mucous membranes; why then in this era of preventive medicine do the guardians of health in Kentucky permit the use of the common drinking cup without a word of protest? Seven States have already legislated against this public nuisance, forty State Boards of Health have agreed that the common cup should be abolished,—and we hope that such reports will continue to come tapping, rapping, gently knocking (at the door of) the Kentucky State Board of Health until it is bestirred to some action against this public menace.

YE DOCTORS!

Ye who listen with credulity to the whispers of fancy and pursue with eagerness the phantoms of hope, attend to the translated advertisement of a Chinese doctor:

“Towers are measured by their shadows, and great men by those who envy them. I am the seventh son of a seventh son. I am endowed therefore with all the combined wisdom of forty-nine eminent doctors. My charges are moderate. My feet are planted among the secrets of the earth, and my head is lifted among the discoveries of heaven. My branches are wide and my roots penetrate deep into the earth. I cannot be overthrown by wind. I am no blind fowl pecking at random for worms. My knowledge is sure. I do not climb a tree to hunt for fish or turn a somersault in an oyster shell, nor am I a toad in a well, contemplating a patch of blue sky, but I survey the universe as from a dome and take in at a glance all real and imaginable things.

“In my head are all the maxims of the medical god, all the arts of the imperial leech, all the prescriptions of the philosopher, all the magic the genii unwound from his

queue, and all the rules of the reckoner. When I call diseases they answer to their names. Spirits vanish. Principles, elements, and forces assort themselves before me like feathers under the fingers of the flower maker. At my bidding disorders of the most complicated nature resolve themselves into their several members and form action; color and sound have each a tongue to tell me what they mean. The medicines I dispense are of miraculous virtue and the gratitude of my patients has transformed the garden of my good works into a grove of fragrant almond trees."

Ipsa dixit!—meaning he that tooteth not his own horn the same shall not be tooted. But our own newspapers contain advertisements almost as preposterous. It is to their shame that they upon whom we rely to expose sham and protect the public from fraud should subsidize their columns to charlatans who exploit upon woeful ignorance and profess to cure when doctors fail and hope is gone.

Such gullibility as was recently demonstrated in Louisville is calculated to discourage scientific practice of medicine. It is just such that makes the honest doctor, who has given his best years to study that he might serve the public efficiently and conscientiously, close his books of scientific progress and reflect "What's the use?"

"In reply to a letter from a young German friend," remarked Dr. Ben Trovato, "who desires to know something about our laws regulating the practice of medicine, in order that he may decide whether or not to come here to make his living, I have written that in the majority of the States almost anybody may practice without a license except a regular graduate in medicine."

The vigorous crusade by our local health department against promiscuous expectorators is doing much good. Now, by a few unremitted fines, these buzzards will become wise to the fact that they are no longer birds of liberty and must become respecters of place and person.

Original Articles

ACUTE PERFORATION OF CHRONIC DUODENAL ULCER.*

BY HENRY ROTH, M. D.,
NEW YORK.

Attending Surgeon, Lebanon Hospital.

Sudden perforation of a chronic duodenal ulcer into the free peritoneal cavity, is one of the most serious surgical emergencies, and demands early diagnosis and prompt treatment. In view of the fact that chronic duodenal ulcer occurs far more frequently than we have been led to believe in the past, it is of the utmost importance to bear in mind this, the most serious complication which is apt to occur in the presence of such an ulcer. Therefore, in the presence of the symptoms and signs of an acute perforative peritonitis, the possibility of an acute perforation of a chronic ulcer of the duodenum must always be considered to avoid the overlooking of a condition which is so readily remedied by early and appropriate measures. It should be said here that the diagnosis of this condition is made with much greater ease during the earliest hours of the disease, and may be impossible if the patient is seen at a later stage, when symptoms of a diffuse or generalized peritonitis have developed. A diagnosis may be very difficult or impossible if the symptoms and signs are masked by the injudicious administration of morphine, which has the effect not only of distorting the clinical picture, but of causing apparent improvement in the general condition of the patient.

The histories of the following two cases, which occurred in the practice of the writer during the past year, are fairly typical and serve to illustrate the clinical picture and mode of treatment of the disease under discussion:

Case 1.—Hospital No. 28360. Isidor G., aged twenty-three years, was admitted to Lebanon Hospital on Jan. 31st, 1910, giving the following history: for about six months he com-

*Read before the Medical Society of the Borough of the Bronx, February 8, 1911 and published exclusively in this Journal.

plained of a dull ache or pain in the epigastric region. This pain was relieved by the ingestion of food and had continued up to the morning of the day of admission. About a month before admission he began to vomit about one or two hours after meals, the vomitus consisting mainly of small particles of food mixed with a large quantity of watery fluid. After vomiting he had some pain all over the abdomen. On the day before admission he had diarrhoea, the bowels moving about fifteen times, and the movements were of tarry consistency. On the day of admission he ate breakfast at about 8:30 a. m. and went about his daily work as a clerk. At about 11 a. m. he was seized with a sudden agonizing pain in the epigastric region, which later spread all over the abdomen, but gradually became most intense in the lower right quadrant. He vomited several times during the afternoon, but never noticed any blood in the vomitus. Physical examination about ten hours after the onset of the illness, revealed a well nourished man, of good stature, but looking extremely ill and pale, with cold and clammy skin and anxious facial expression. Temperature 103.4 F., pulse between 140 and 160, and respiration 32. The abdominal wall was retracted and was as rigid as a board, especially in the right upper quadrant and in the epigastric region. Tenderness was marked all over the abdomen, but was most exquisite on the right side of the median line. Liver dullness was not appreciably changed, but free fluid could be demonstrated in the right flank. Just before the operation and after the administration of an enema, there was a discharge from the rectum of dark, bloody fluid and a few blood clots; this, with the anaemic condition of the patient, was evidence of hemorrhage within the gastrointestinal tract. Nevertheless, a diagnosis of an acute perforation of a chronic duodenal or gastric ulcer was made, and an immediate operation was decided upon. Within less than twelve hours after the onset of pain, he was operated upon by the writer. Owing to the bad condition of the pulse which by this time rose to 170, ether was administered by the drop method and as soon as the peritoneal cavity was opened, an intravenous saline infusion was administered. An incision was made through the upper part of the right rectus muscle.

On opening the peritoneum a large quantity of a yellowish, odorless fluid escaped. After sponging out more fluid, a punched-out perforation was found in the anterior wall of the duodenum about one-quarter of an inch beyond the pyloric ring. The perforation was about one-eighth of an inch in diameter, and was surrounded by a considerable area of induration and a deposit of fresh fibrin. When the latter was wiped away there was bleeding from the indurated margins of the perforation. Considerable blood was seen within the bowel. The perforation was closed with a transverse row of Lembert sutures of linen thread, which was reinforced by an additional layer of sutures of the same material. Owing to the friability of the tissues, several of the sutures tore out, and as a further protection a small piece of omentum was sutured over the closed perforation. As much of the fluid was sponged out of the abdominal cavity as was possible, and a small incision was made just above the pubes. Through this opening drainage tubes were introduced into the pelvis. The upper incision was closed down to a small cigarette drain. The patient was placed in Fowler's position, and proctoclysis was continued for about forty-eight hours. After the operation there were several evacuations of bloody fluid from the rectum, probably resulting from a considerable hemorrhage which occurred just before the perforation took place. After the first forty-eight hours convalescence was uneventful, and he was discharged, cured, on February 28, 1910.

Case 2.—Hospital No. 29700. Wm. C. L., aged twenty-two years, was admitted to Lebanon Hospital, on May 25, 1910, giving the following history: About one year ago he was operated upon at Garfield Memorial Hospital, Washington, D. C., for a perforated gastric ulcer, at which time his appendix was also removed. Aside from this, his past history was negative. About four hours before admission he experienced a dull ache in the epigastric region. One-half hour later, he had a very sharp pain in the same situation, which was so severe that it doubled him up and he had to go to bed. This pain in the epigastrium was present at the time of admission, was localized and did not radiate. With the onset of pain he vomited several times. He had a moderate lunch about four

hours before onset of the pain. Bowels were constipated and he passed no flatus. On examination, two scars were seen in the abdominal wall, one from a median incision reaching above the umbilicus. The other was over the region of the appendix. There was tenderness all over the abdomen, but it was most marked in the epigastric and right hypochondriac regions. There was marked rigidity over this same region. Temperature was 100.6 F., pulse 90, and of good quality, and the patient did not look very ill. A diagnosis of a perforating duodenal or gastric ulcer was made, and patient taken to the operating room.

Less than six hours after the onset of pain, the abdomen was opened through a median incision, extending from just below the ensiform cartilage to a point slightly above the umbilicus. On opening the peritoneal cavity considerable sero-fibrinous fluid escaped. There was quite a collection of this fluid in the right renal pouch. There was also a very slight escape of gas from the peritoneal cavity, and the fluid exudate was odorless. Just beyond the pylorus there was a perforation about three m.m. in diameter on the anterior wall of the duodenum. Some brownish fluid was seen escaping from the bowel. On account of the small size of the perforation, the latter was closed with a purse-string suture of Pagenstecher linen thread, which was reinforced by a number of Lembert sutures placed transversely. The fluid exudate in Morrison's pouch was mopped out and the abdominal wall closed down to a tube and wick drain which led into the renal pouch. The peritoneal cavity was not irrigated, nor was a counter incision made over the pubes because the fluid exudate was limited to the upper abdomen, by adhesions following the previous operation. Before closing the abdomen, the stomach was carefully examined for additional ulcers, but none could be demonstrated. Convalescence was uneventful, and the patient was discharged, cured, on the fifteenth day after operation.

Through the courtesy of the authorities of Garfield Memorial Hospital, Washington, D. C., I am able to place on record the history of the previous perforation for which this patient was operated upon by Dr. A. L. Staveland, Washington, D. C. I wish to record my appreciation for this privilege.

The history is as follows: "Patient admitted to hospital on May 31, 1909, and taken directly to operating room for examination. Patient's friends say that he has not been feeling well for several days, and this a. m. got up feeling worse than usual. Bowels had not moved for three days, so took a saline and went to school. Some half-hour later, while in class, was taken with intense pain in right lower quadrant of abdomen. Pain has continued, and, if anything, a little more severe. Pain does not extend around toward back or along course of ureter. Whole abdominal muscles very rigid, and knee flexed upon abdomen, and patient rolls and tumbles during paroxysms of pain. Has vomited large quantities of undigested and poorly masticated food. While giving every appearance of being in intense agony, his temperature is normal and pulse strong and only 84."

"Operation at Garfield Memorial Hospital, Washington, D. C., May 31, 1909, operator, Dr. A. L. Stavely. Patient anesthetized and placed in dorsal position on operating table and prepared in usual manner. Gridiron incision made over McBurney's point; appendix which showed few inflammatory changes, drawn out of incision, its mesentery clamped and ligated with No. 1 chromic gut; appendix ligated with No. 2 chromic gut close to cecum and cut away; stump cauterized with pure carbolic acid and then buried with a suture of fine catgut. Appendix slightly diseased, but not enough to account for the large amount of sero-purulent fluid in abdominal cavity. An incision was begun in median line between symphysis and umbilicus, and continued up till stomach was exposed in an effort to discover the real trouble. On exposure of stomach a perforation 1.5 cm. in diameter was apparent on its anterior surface, 5 cm. from its pyloric opening. This was inverted and closed with a purse-string suture of medium fine linen which extended through the peritoneal and muscular coats of the stomach. Abdomen was flushed with normal saline solution and incision closed:—peritoneum with continuous chromic gut suture and skin with silkworm gut. Cigarette drains inserted before incision closed. Dressing, etc., patient sent to bed in good condition."

Acute perforation of a chronic ulcer may occur at any age and in either sex, although it is more common in men in the prime of life. In many of the cases there is a history of alcoholism. The immediate cause of the perforation is difficult to determine, but straining, vomiting, coughing, lifting some heavy object or a blow upon the abdomen may be etiological factors. The time of the last meal preceding the perforation is of some importance; the longer the interval, the less likely will there be a flooding of the peritoneal cavity with particles of food.

Most of the perforations are on the anterior or upper wall of the first portion of the duodenum and just beyond the pylorus. It is important to remember that there may be several ulcers and more than one perforation. The size of the perforation varies from that of a pin-head to that of the diameter of a lead pencil, and is no guide to the size of the ulcer. The margin of the perforation is usually surrounded by an area of induration and covered with a deposit of fresh fibrin; and is very friable so that sutures frequently tear out, making it difficult to secure perfect closure. The perforated bowel may be adherent to the under surface of the liver or may be partly covered by adherent and thickened omentum. Following a perforation there is always more or less escape of intestinal contents, fluid as well as gas, the amount depending upon the size of the perforation, and the time and character of the last meal. There is also an exudate which varies in amount and kind, according to the size of the perforation and the time which elapsed since the rupture. It may be serous, serofibrinous, or purulent and the entire abdominal cavity may be filled with it. The bowel contents escape and drop downward to the transverse colon; coincident with this, an exudate is poured out in the vicinity of the perforation. This also tends to gravitate toward the upper surface of the transverse colon and omentum. From this point it runs to the right renal pouch. After the latter is full the fluid runs down along the outer and anterior surface of the ascending colon and caecum into the right iliac fossa and down into the peritoneal cavity and spreads to all parts of this complicated space.

The first and foremost symptom, directly due to the perforation, is pain in the abdomen, which comes on very suddenly and is very intense. It is felt all over the abdomen, but may be most severe in the epigastric or right hypochondriac regions, and may radiate to the back. Vomiting may or may not occur. The pulse may be normal in frequency, and of good quality—respiration, however, is usually shallow and rapid on account of the increased pain caused by the movements of the diaphragm and abdominal muscles. There may be no change in the temperature, but the skin is usually cold and clammy, and the face is pale and has an anxious expression. In fact, if seen very early a condition of shock may be observed. Coincident with the onset of pain, rigidity of the abdominal wall appears. This is general and complete, but is usually most marked in the upper part of the abdomen. It is of board-like character and produces retraction of the abdominal walls. The bowels are usually constipated and not even flatus may be passed; occasionally blood is found in the stools. If the patient is seen a number of hours after the onset of the illness, pain, tenderness and rigidity will be very marked in the region of the appendix on account of the gravitation of septic material into the right iliac fossa. At this time there may be absence of liver dulness and on percussion fluid may be demonstrated in the right flank. If the condition is not recognized at this early stage of the disease, and infection of the peritonæum is allowed to progress, the clinical picture changes to one of a diffuse or generalized septic peritonitis, with rapid, feeble pulse, rise in the temperature, shallow respiration, vomiting and intestinal paralysis. The abdomen which at first was scaphoid, becomes very much distended and pain, tenderness and rigidity are present all over the abdomen.

In arriving at a correct diagnosis a history of recurrent attacks of so-called dyspepsia or indigestion, characterized by pain in the epigastric region, coming on two or three hours after meals, and which is relieved by food, is of very decided value. In addition, the patient may have had epigastric pain coming on at night. There may have been repeated attacks of vomiting. Blood may have been present in the stools:

usually, however, it is found only in very small quantities and requires very careful examination to detect its presence. There may be a history of tenderness in the regions above and to the right of the umbilicus.

Acute perforation of a chronic duodenal ulcer may have to be differentiated from acute perforation of a chronic ulcer of the stomach, acute cholecystitis or perforation of the gall bladder, acute pancreatitis, acute appendicitis, acute poisoning, mesenteric thrombosis, acute inflammation of a Meckel's diverticulum, torsion of some intra-abdominal tumor, rupture of an intra-abdominal abscess, and last, but not least, pneumonia or pleurisy of the diaphragmatic type. If seen late, when diffuse or general peritonitis is present, a differential diagnosis is usually impossible. Likewise it is difficult and sometimes impossible to differentiate between a perforated gastric and perforated duodenal ulcer, but inasmuch as either one of these two conditions requires the same prompt surgical treatment, it does not matter much which of the two is diagnosed, although the previous history may be of some aid in arriving at an exact diagnosis. In acute cholecystitis or acute perforation of the gall-bladder there is usually a history pointing to cholelithiasis, such as recurrent attacks of biliary colic, and possibly jaundice. In acute pancreatitis there may be a history pointing to gall stones. It usually occurs in stout people and the general condition of the patient is very bad from the very beginning. The pulse is very feeble and rapid and marked cyanosis is usually observed. There may be a distinct tumefaction in the epigastric region and distention of the abdomen develops very early. Differentiation between perforating duodenal ulcer and acute appendicitis is at times very difficult, especially if the patient is not seen for some hours after the onset of pain. In fact, some of the early cases were only discovered during operations for supposed appendicitis. The errors in differential diagnosis of these two conditions, are due to the gravitation of the septic exudate, referred to previously, into the iliac fossa. Nevertheless, with some care, especially if seen early, acute perforation of a duodenal ulcer may be diagnosed even before operation. In appendicitis the initial pain is not so severe, nor does it come

on so suddenly, and rigidity or tenderness is not so marked in the upper part of the abdomen, unless the appendix points upward and is possibly adherent to the under surface of the liver. Furthermore, rigidity is not so pronounced and board-like unless the appendiceal infection is of exceptional virulence. As a rule the symptoms and signs of peritonitis do not develop quite so rapidly because septic material does not escape as quickly nor in such large quantities as after perforation of a duodenal ulcer. It is very important to remember that should a diagnosis of appendicitis have been made and an operation done accordingly, if the appearance of the appendix does not seem to account for the severity of the peritonitis, further search should be made to find the real cause of the peritoneal infection and the possibility of a duodenal perforation should not be lost sight of. There are cases on record in which the true condition was only discovered on the post-mortem table after a diagnosis and operation for acute appendicitis. In cases of acute poisoning, vomiting is usually more frequent and the character of the vomitus may point to the true cause of the abdominal pain. In mesenteric thrombosis there is usually a different history and the patient, as a rule, shows other evidence of cardio-vascular disease. Acute inflammation of a Meckel's diverticulum does not, as a rule, begin with such agonizing pain, nor is the rigidity so marked in the epigastric and hypochondriac regions. In cases of torsion of some intra-abdominal or pelvic tumor, there is rarely such absolute rigidity, nor do the symptoms of peritonitis develop with such rapidity. Furthermore, a rapidly-growing tumor can usually be felt in some part of the abdomen. Physical signs are most pronounced over the tumor and not in the upper abdomen. There may also be a history pointing to the previous existence of a tumor. Sudden rupture of an intra-abdominal abscess will usually be preceded by an inflammatory condition of some duration and the history of the latter should prevent a mistaken diagnosis. Acute perforation of a duodenal ulcer very much like acute appendicitis, may be simulated by a beginning pneumonia or pleurisy especially of the diaphragmatic type. The abdominal pain is referred from the chest along the lower intercostal nerves, and is not uncommon. The

possibility of this reflex pain should always be kept in mind. Rigidity, however, is never so marked as with perforation and the abdominal walls relax with each inspiration and tenderness disappears under firm pressure by the flat of the hand. The sudden rise of temperature to a high point, possibly preceded by a chill, the continued high temperature, the rapid respiration, the relaxation of the abdominal walls with each inspiration, and the disappearance of tenderness on deep pressure by the flat of the hand, with the absence of an abdominal inflammatory exudate, all point against perforation of the duodenum.

It is of the utmost importance that a correct diagnosis be made early as with every hour's delay it becomes more difficult, and in advanced cases it is no longer possible. Furthermore, it is an established fact that of cases operated upon within the first eighteen hours, practically all recover, while after that, the prognosis grows worse in proportion to the length of time which is allowed to elapse between the time of perforation and of laparotomy.

As indicated above, the only treatment which promises good results is early abdominal incision and closure of the perforation. Operation having been decided upon, it is a good plan to administer a hypodermatic injection of morphine and atropine. It not only relieves the pain, but it serves to improve the general condition of the patient and diminishes the amount of anaesthetic which should be general rather than local. The abdomen is opened through a right rectus incision, between the ensiform process and umbilicus. As soon as the peritoneum is incised there is an escape of a fluid exudate and at times of some gas. As much fluid as possible should be sponged out and the perforation looked for. This can be readily traced by the deposit of fresh fibrin which is usually present in abundance in the immediate vicinity of the lesion. At times it is hidden underneath the liver or is covered by a patch of adherent omentum. Having found the perforation the duodenum is brought as near to the surface as possible and the rest of the abdominal cavity is protected against further soiling by the proper distribution of laparotomy pads. If the perforation is small, as in the second case reported, it may be closed with a purse-string suture of linen thread, and, if neces-

sary, by a few additional Lembert sutures of the same material. If the perforation is larger, it is closed with two rows of Lembert sutures of linen thread placed transversely to the long axis of the gut so as not to diminish the lumen too much, and thus cause subsequent obstruction. The sutures may be interrupted or continuous, depending upon the choice of the operator. On account of the friability of the tissues, many of the sutures tear out, and considerable difficulty may be experienced in obtaining a secure closure. To obviate the danger of leakage from an insecure closure, a piece of omentum may be sutured over the bowel as an additional safeguard, as was done in the first of the two cases reported. After the perforation is closed, search should be made for other possible perforations which may require attention. As much of the fluid exude should be sponged out as possible, particular attention being paid in this respect, to the right renal pouch and subhepatic space. Irrigation of the abdomen is only employed if a large amount of foreign material is found in the peritoneal cavity. This is rarely the case in patients operated upon early, hence, in these peritoneal lavage is unnecessary. If irrigation is decided upon, a suprapubic incision is made through which a rubber or glass drainage tube is placed down to the bottom of the pelvis. Hot saline solution is allowed to flow from the upper incision through different parts of the peritoneal cavity down into the pelvis from which it escapes with particles of foreign material through the drainage tubes. Just as soon as clear fluid comes out of the pelvis, irrigation may be suspended. The first incision can be closed entirely or down to a small cigarette drain, placed into Morrison's pouch. In most instances, it is wise to employ suprapubic drainage. This was not done in our second case because the perforation was very small and adhesions from the previous operation prevented undue soiling of the lower part of the peritoneal cavity. A very important question which comes up in the mind of every operator, when dealing with a perforated duodenal ulcer, is whether to do an immediate gastro-jejunostomy or not. It seems to be pretty well settled that the perforation per se, seems to cure the ulcer, therefore gastro-jejunostomy is not necessary. Furthermore, should symptoms of duodenal ulcer

continue or recur, this operation can be done more safely at some future time, when the condition of the patient will be far better to withstand the additional operation, and when the peritonemum will be free from infection. It is also known that a gastro-jejunostomy, done at the time of repair of a perforation, does not protect the patient against future perforation, but does jeopardise the immediate chances for recovery. Immediate gastro-jejunostomy should, however, be done if, in closing the perforation, the lumen of the bowel became too constricted immediately or is apt to become so in the near future.

All patients in whom suprapubic drainage is employed, should be placed in Fowler's position and given saline solution per rectum, according to the excellent method advocated by Murphy. Drainage is continued for a number of days, depending upon the amount of discharge, and feeding by the mouth is abstained from the first twelve to twenty-four hours.

CONCLUSIONS.

1. Acute perforation is the most serious complication of chronic duodenal ulcer.

2. The most important symptoms are sudden onset of severe abdominal pain, tenderness and rigidity, with retraction of the abdominal walls.

3. An exact diagnosis is most readily made in the earliest hours of the disease when pain, tenderness and rigidity are most marked in the upper abdomen.

4. A history pointing to a chronic duodenal ulcer, is of the greatest value in differentiating this condition from other acute intra-abdominal lesions.

5. Without an operation almost all patients die, while operation, done within eighteen hours after perforation, yields excellent results.

6. Laparotomy and closure of the perforation should be done at the earliest possible moment after perforation. Extreme soiling of the peritoneum by contents of the bowel necessitates lavage and suprapubic drainage. Immediate gastro-jejunostomy should be done if closure of the perforation produces undue constriction of the duodenum or pylorus.

THE TREATMENT OF PLACENTA PREVIA.

BY EDWARD SPEIDEL, M. D.,
LOUISVILLE, KY.Professor of Obstetrics in the University of Louisville; Consulting Obstetrician
to the Louisville City Hospital.

It seems to the writer that distocia due to an abnormal location of the placenta are becoming more frequent and it is fair to assume, that three factors in the life of the modern woman may be in part accountable for it. Every one practicing medicine knows that many married and should be married women take an emmenagogue and resort to other drastic measures, when they find that they have missed a menstrual period. In many such instances it will be remembered, that the medication is followed by an apparent menstrual discharge, but that after another month or two a vaginal examination nevertheless discloses a pregnancy dating from the first missed period. It may be assumed in such instances, that the impregnated ovum was dislodged in the beginning by the drastic measures used, but that it was arrested lower down in the cavity of the uterus and may disclose itself as a placenta previa in the later months of pregnancy. In a number of cases of placenta previa conducted by the writer, there was a suspicious history of this kind.

That venereal disease may play an important role in a predisposition to a low attachment of the placenta, must be conceded by every one who is at all acquainted with the pathology of chronic endometritis, the result of the gonorrheal form. It is well known that infection of the endometrium with the gonococcus of Neisser results in the destruction of the natural columnar ciliated epithelium of this membrane, proliferation of excessive connective tissue and the formation of bald spots covered with squamous epithelium on the lining membrane of the uterus. That such bald places offer an insecure hold for the chorionic villi in the early development of the placenta is self evident, with the result of course that the growing ovum slips down in the uterine cavity until it gains a firm foot-hold over the internal os. The well established fact then that gonorrheal infection in the female is enormously on the increase, will readily account for additional cases of placenta previa due to this cause.

As the third factor should be mentioned accidental dislodgement of the growing ovum due to modern methods of locomotion. In the early months of pregnancy the ovum is practically buried in the wall of the uterus; it rests on the decidua serotina and the decidua reflexa has grown over and become united over it. It is contended then that it would take an extraordinary amount of violence to dislodge a healthy ovum from its original resting place in a healthy uterus and instances are accordingly given in medical literature in which pregnant women have fallen from considerable height or have been violently thrown from horseback without an interruption of the pregnancy. That the jolts and sudden jars to which pregnant women are subjected in riding on our modern electric cars and in automobiles may result in such a dislodgment of a pregnancy is readily proven, however, by the number of threatened and inevitable abortions incident upon such occurrences. Whether it then can be ascribed to the severe jolting alone or a coincident more or less diseased condition of the uterus is a question of course, that can only be definitely solved by close investigation.

Several of the writer's cases of placenta previa at any rate are attended by a history of such violence. It behooves the obstetrician, therefore, to be on his guard when a patient in pregnancy gives a history of a threatened and arrested abortion in the early months of her gestation.

The writer bases his statement that the condition is apparently becoming more frequent upon the fact that he has conducted three cases of placenta previa centralis and one of marginalis in the last three months. As the text-books vary in their estimates of the frequency of this condition from 1 to 150 to 1000 labors, it may well be claimed, that the above run of cases is decidedly unusual. At the same time, the conduct of four such cases in rapid succession conducted with careful case histories, in each instance gives one an exceptional experience, that may justify a preference for the method used in the delivery of all of these cases, especially if they were attended with success. This experience is based in all upon nine cases of placenta previa, four of which were of the central variety, with no material mortality. The babies lived

in all the marginal varieties and the two fetal deaths, both in placenta previa centralis, occurred in one case in which pregnancy was not six months advanced, whereas in the other case, the mother was almost pulseless when first seen and the baby showed no signs of life whatever upon birth.

If a case of placenta previa is encountered before the seventh month the question naturally arises, as to whether it is safe to allow gestation to continue until the child is viable. The amount of blood lost by the patient when the condition was first discovered should be a factor in arriving at a decision. If bleeding has been comparatively slight, if the patient is in a good home in constant care of a trained nurse who is intelligent enough to control a vaginal hemorrhage until the physician arrives, then gestation may be allowed to continue. It is the part of wisdom however, to inform the family that another hemorrhage may occur at any moment and that immediate delivery will then be necessary. The best place under such circumstances, when the family is very desirous of having a living child, without sacrificing the mother, is in a well regulated hospital, where arrangements for any emergency that may occur are close at hand.

If the hemorrhage has been profuse from a placenta previa before the seventh month, then it is only fair to assume, that there must be considerable encroachment of the placental mass upon the cervix and with the increased retraction of the lower segment of the uterus with each added day of gestation, fatal hemorrhage may ensue at any time. In the latter case then, there should be no temporizing, the delivery should occur in a well regulated hospital and if proper arrangements have been made for an incubator, then it may still be possible to save the child.

Any one attempting the delivery of a case of placenta previa, should bear in mind the following facts: The hand is going to be introduced into the uterus, consequently unless surgical asepsis is practiced in everything respecting the patient, the instruments and himself, there will be a puerperal infection. He is going to dilate the cervix, perform version and in most instances a rapid delivery through undilated birth passages. He is apt to be confronted with an asphyxiated in-

fant and a mother suffering a furious intra and post partem hemorrhage. All this must be borne in mind and preparations made for every emergency before delivery is attempted. It is necessary besides the anesthetist, to have another physician or a very intelligent nurse assisting in the operation, carefully instructed beforehand as to what to do in such emergency. If the delivery is to be conducted in a private house then a firm table should be brought in for the purpose.

If at all accessible, the patient had best be transferred to an infirmary and for this purpose the vagina can be firmly tamponed with sterile ganze, held in place by a binder. A foot tub should be ready with plenty of hot and cold water to resuscitate the baby if necessary. The obstetrical forceps should always be at hand for instant use, should there be any delay in the delivery of the after coming head. Hot normal saline solution as an irrigating fluid with a uterine douche tube, sterile gauze packing and a hypodermic of ergot should all be in readiness for the control and prevention of a post partem hemorrhage.

Rubber gloves should be worn in all of these cases, because the hand enters the cavity of the uterus and the fingers may come in contact with the open blood sinuses in the delivery of the placenta.

With the patient anesthetized, the external genitals should be shaved and cleansed by the attending nurse, upon the operating table, the vagina is then cleansed very thoroughly with soap and hot water and irrigated with hot sterile water. As a first step in the procedure, the obstetrician should insert his whole hand into the vagina, examine the cervix and confirm his diagnosis.

Then a thorough dilatation of the vaginal passages and the perineal outlet should precede any further steps in the delivery, for if this is omitted, then serious delay occurring at the time when the shoulders and after coming head of the child should be born may result in its death.

The next step in delivery is manual dilatation of the cervix. The writer has only met with a rigid cervix in one of his cases and has never found it in patients beyond the seventh month of gestation. A cervix at first apparently unyielding,

will soon give way to gentle and properly directed efforts. Nothing is more dangerous than undue haste in this procedure. It will inevitably result in severe laceration of the cervix that may extend high enough, in itself to cause considerable blood loss during and after the delivery.

With the whole hand inserted into the vagina and dilatation started with a single finger introduced into the cervix, pressure should be made with a rotary movement until the os is sufficiently stretched to admit a second finger. The maneuver is repeated with these, then with a third and fourth finger until finally the whole hand with the fingers pointed in a cone is used as a dilating wedge. Careful counter pressure is continuously made with the other hand upon the fundus of the uterus to prevent rupture. After the full hand has passed through the cervix it is best to make a fist and increase the dilatation to that extent, the closed fist rotating and stretching the cervix for several minutes in order to insure this extreme dilatation.

Podalic version should next be performed by the combined method, that is with one hand upon the abdomen and the other in the uterus. The writer prefers to perform version without rupturing the membranes and has succeeded in doing so in all of his cases. In placenta previa centralis, the placental mass should be split through with the finger tips until the membranes are reached and these should be left intact in all cases until the child has been turned around in the uterus and the head has been carried well up towards the fundus. With the patient deeply anesthetized the membranes are so elastic, that a foot can be diagnosed and seized and drawn through the cervix, before a tear occurs and in consequence upon rupture, a part of the liquor amnii is retained in the uterus. The advantage of this method should be self evident.

Version is performed with greater ease when the fetus floats in the intact membranes, than when after rupture and escape of the greater part of the waters, the uterus has contracted down upon it. Again when the waters have been retained in the uterus, the fetus is not subjected to undue pressure and its circulation interfered with during delivery and

chances for delivering a living child are thereby greatly increased. The writer credits his low fetal mortality in his cases of placenta previa mainly to this factor.

With the amount of dilatation secured by the method outlined above, there need be no delay in the delivery. No undue traction should be made, hemorrhage is generally controlled and satisfactory progress is usually made in the delivery when slight tension is made upon the foot that has been brought out of the vagina. The conduct of the case from this point on is as in a breech presentation, the warmed towel must be at hand to wrap the child's body to prevent premature attempts at respiration, the assistant must follow the fundus down carefully so that the arms may not be extended upward and so there be no delay in the delivery of the after coming head. When the child is born the cord should be at once cut between two artery forceps, and if asphyxiated, which is generally the case, resuscitated according to recognized methods. The operator should under no circumstances attend to this, for at any moment after delivery of the child there may be a fatal hemorrhage from the uterus. Instead one hand upon the abdomen should manipulate the fundus, with the other hand held ready to introduce into the uterus and remove the placenta manually at the first sign of a hemorrhage.

The danger of hemorrhage from the placental site at this stage is too great to allow of much delay, consequently if it cannot be expelled by pressure in a comparatively short time, manual removal should at once be resorted to with the utmost precautions as to asepsis.

It must be remembered, that the lower segment of the uterus, where the placenta is located in this condition, does not contract as readily as the upper and consequently, the fact that the fundus is firm and hard lends no assurance that hemorrhage may not occur from below. For the same reason, it is always safest to take extreme precautions against post partem hemorrhage, consequently after expulsion or removal of the placenta and the hypodermic administration of ergot, irrigate the uterus with a gallon of hot normal saline solution. The cervix is then seized with vulsellum forceps and the uterus and vagina well packed with sterilized gauze, which should be left in

place at least 24 hours. The patient should then be returned to bed as quickly as possible and normal saline administered as needed, either endermically or per rectum.

Since writing the above, another case of placenta previa centralis has been conducted by the writer, the mother living but the child asphyxiated. The history of the case is as follows.

On February 13th at 9:15 P. M. I was called in consultation by Dr. S. C. McCoy to see a patient in labor at the Norton Infirmary suffering with hemorrhage from placenta previa centralis, the diagnosis having previously been made by Drs. McCoy and Tuley.

The patient a multipara with four children had last menstruated on July 4th, and was due was due on April 11th, and consequently was just seven months advanced in pregnancy. On January 31st at 10 A. M. the patient was ironing when there was a sudden and profuse hemorrhage from the vagina without contracting pains. On Monday, February 4th, the patient had a second hemorrhage and was accordingly transferred to the Norton Infirmary where Dr. McCoy had her kept under constant observation.

There was a little oozing of blood each day and on February 13th at 9 A. M. the patient passed a number of large clots. At 8 P. M. there was a profuse hemorrhage temporarily controlled by tampons when Dr. McCoy was called. Dr. Tuley who had been in the case previously unfortunately was sick in bed and so Dr. McCoy called me in consultation.

The appearance of intense anemia on the part of the patient, the rapid thready pulse of 145 and the blood saturated tampons in the vagina, were sufficient evidences of the necessity for a prompt delivery in order to save the life of the mother. Dr. McCoy had auscultated shortly before my arrival and stated that the fetal heart sounds could be heard distinctly. There was considerable delay in securing an anesthetist, consequently it was 10:45 P. M. before active measures could be begun.

The patient was bleeding at that time and vomiting at intervals. With the utmost care as to asepsis, the hand was introduced into the vagina and encountered placental structure on all sides, the cervix being well dilated. Podalic version

was performed through this structure and the asphyxiated baby delivered with no delay whatever in the delivery of the shoulders and head. The cord was quickly cut and the baby turned over to Dr. McCoy for resuscitation as the mother required immediate attention.

The placenta was removed manually and showed that delivery had occurred directly through the mass. Hot normal saline irrigation and uterine gavage packing followed and the patient was quickly transferred to bed, with elevation of the foot of the bed and enteroelysis of normal saline solution followed.

The infant did not respond to efforts at resuscitation. The mother passed through an afebrile, uncomplicated puerperium and left the infirmary after two weeks.

CALCULI IN THE FEMALE URETHRA. FOREIGN BODY IN THE FEMALE BLADDER.*

BY JOHN H. BLACKBURN, M. D.,

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Calculi in the female urethra are so infrequently reported that the following cases are believed to be worth recording. As a rule a stone in the female bladder will easily and quickly pass through the urethra if it once leaves the bladder on account of the shape and length of the uretra, this differing from the male urethra in not having the rather marked constrictions at certain points and in being so much shorter.

Case 1. Mrs. J. H. D., white, age 39, was seen in consultation with Drs. H. Whited and W. C. Strother, December 14, 1908. Previous History: Is the mother of two children, 14 and 7 years old. After the birth of the first child an examination for some pelvic trouble revealed the presence of a tumor in the right fornix, diagnosed an intraligamentous fibroid on account of the position and induration. This tumor was present seven years ago at the birth of the second child, Dr. Strother being in attendance.

Three years ago she began to complain of "bladder trouble," and for a period of several weeks she passed the characteristic granular, unctuous material of a dermoid to-

*Read before the Warren County, Medical Society.

gether with five or six pieces of bone and a few hairs. After a few months she was apparently well, but about eighteen months ago she began to complain again of the bladder symptoms, frequent and painful urination, incontinence or dribbling of urine at times, and gradually developed an offensive "leucorrhœa."

One month ago, after several weeks of medicinal treatment, Dr. Whited examined her and found protruding from the meatus a calculus. An effort at the removal of this stone with a hemostat fractured the edge of it, but on the following day she passed it with very little pain; Fig. 1. A; it weighed two and a half drachms.

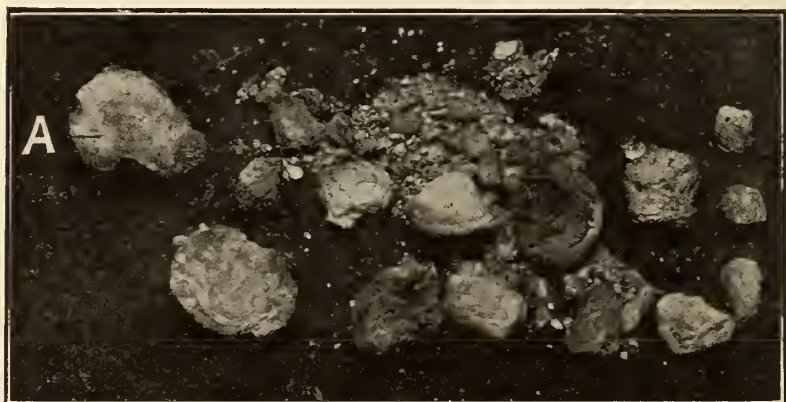


FIG. 1. A. Stone first projecting from meatus, and passed by patient. The remainder of fragments shown are of large single stone removed from urethra by crushing and scoop. Laminated structure of both stones is clearly seen.

I found a patient who was very nervous and irritable, weak and exhausted, had lost twenty pounds in weight, had the so-called septic appearance, and had been taking one-fourth of a grain of morphia twice a day for several weeks on account of the pain.

On examination another stone was found protruding from the meatus, which was so dilated that the index finger could be introduced into the urethra without pain. There was pouring from the meatus a large quantity of foul, offensive discharge with the extremely disagreeable urinous odor, the so-called leucorrhœa. On introducing the finger into the

vagina I found that the stone was about two and a half inches in length, one and a half inches in width, one inch thick.

Under chloroform anesthesia I crushed and removed the stone (all of the fragments shown in Fig. 1 except A), which weighed ten drachms.. After the removal of the calculus I found that it was entirely intra-urethral, the whole urethra being very much dilated roomy enough to accommodate two fingers, but the meatus and vesical orifice each being sufficiently enlarged to allow the index finger to pass easily. The entire urethral wall was covered with a lamina of the stone, which was with difficulty removed.

Under the anesthesia a careful bimanual exploration of the pelvis was made both through the vagina and bladder, but nothing could be found to indicate the location of the dermoid which had ruptured three years ago. The bladder wall was perfectly smooth and no calculus could be found.

Under frequent borie acid irrigations the patient began to improve at once, did not take another dose of morphia, and in a few months had regained all of the flesh she had lost. After two years she had had no return of any of the symptoms.

Case II. H. C., black, female, age 17 years, referred by Dr. O. D. Porter.

Previous History: Began to complain one year ago of painful and frequent urination. Internal treatment gave only temporary relief. Suspecting the possibility of a specific infection, Dr. Porter decided to use local treatment, irrigation of the bladder. On attempting to pass the glass catheter into the bladder it came in contact with a hard substance, which proved to be a calculus lodged in the urethra. This was removed by another surgeon three weeks ago under anesthesia (all of the fragments shown in Fig. 2). At this time he found another in the bladder, but did not attempt to remove it.

The patient came into my hands for the removal of the stone from the bladder. This could easily be palpated on bimanual examination, and under anesthesia I made the effort to remove it through the urethra, which easily admitted the little finger. The shape and length of the "stone" and the facets which could be felt convinced me that it was a foreign body of some kind. After several attempts to remove it

through the urethra I decided to make an opening through the anterior vaginal wall into the bladder, as the forceps would lose the grasp each time, and I concluded it would not be best to crush it. With one finger through the urethra as a guide I was enabled to grasp the object with the forceps and readily remove it through the vesicovaginal opening. It proved to be an octahedral glass pendant from a swinging lamp (Fig. 2, A), three inches in length, and was covered with a lamina of stone formation. The after-treatment consisted in the use of boric acid irrigations, and in eight to ten weeks the vesicovaginal opening had healed and she has had no more bladder symptoms. The patient admitted afterward that she had introduced the glass about a year before the operation.

In any case of calculus formation in the urethra the question arises as to whether the formation occurred primarily in the urethra, or in the bladder and lodged in the urethra in its



FIG. 2. Fragments are from single stone removed from urethra at first operation; laminated structure clearly shown. A. Octahedral glass pendant removed from bladder at second operation.

passage. In both of these cases we feel sure from the size, shape and location of the stones that the formation occurred in the urethra; in the first case the nucleus being some fragment of bone or a small portion of the granular material of the dermoid, and in the second case there was a deposit on the foreign body and a fragment of this lodged in the urethra and became the nucleus of the stone. In both cases the crush-

ing prevented the finding of any distinct nucleus. A chemical examination of both stones showed that each consisted of calcium carbonate, phosphates and organic material.

Without undertaking a bibliography of this subject, I would suggest that while we find a rather large number of cases of stone in the male urethra, the rarity of calculus in the female urethra is indicated by the fact that in the Index to Current Medical Literature of The Journal American Medical Association for the last seven years there is only one reference to this subject, Finsterer (abstracted Jour. A. M. A., August 4, 1906, p. 395), who finds records of only fourteen cases in the female. There is no case reported in the Annals of Surgery during the last eight years. In referring to the Index Catalogue of the Library of the Surgeon-General's Office, U. S. A., we find innumerable cases of calculi and foreign bodies in the bladder of both male and female and of calculi in the male urethra, but there are only five cases of calculi in the female urethra.

PRURITUS ANI WITH SPECIAL REFERENCE TO ITS SURGICAL TREATMENT.

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After reading a magazine article or a chapter in a text book on pruritus ani one feels, to say the least, that he has not had a lucid array of tangible facts brought before him, nor is his general understanding of the subject materially augmented. Ball says, "at a recent meeting of the British Medical Association, at Oxford, an interesting discussion took place in the Section of Dermatology on the causation and treatment of pruritus ani. Any one reading this debate can not fail to be struck with the enormous number of distinct diseased conditions to which the annoying symptom was attributed by the various speakers, and large as the number of supposed causes assigned were, the various plans of treatment advocated were still greater, all the resources, not only of the Pharmacopoeia, but of the extra Pharmacopoeia being in turn favored." He

further says, "the conclusion which naturally presents itself from reading this discussion is that the etiology of pruritus ani is in many cases indefinite. Of the many causes assigned few are obviously operative, while on the other hand the majority are purely speculative, also the treatment is eminently unsatisfactory."

Of course, pruritus ani is not a disease any more than is constipation or diarrhoea. It is the dominating symptom of an abnormal or diseased state in the anal region. What I shall say about pruritus ani does not refer to those conditions where local discharges, pin worms, pediculi, local skin diseases, reflex condition, etc., can be shown to be responsible for the itching. When the cause in such cases is removed the itching soon disappears. I shall refer to the type of pruritus that is often spoken of as having no etiology; with itching that is persistent and distracting, and the treatment of which is often "eminently unsatisfactory."

ETIOLOGY—I have treated a great many cases of persistent pruritus which have given me ample opportunity to study the conditions in its various phases. I have never believed in the teaching that constitutional diseases were etiological factors so I have sought the cause in the region of the anus. In these cases I have found the anal canal to be unusually tight. In many of the first cases I was unable to detect any evidence of local disease either by digital or instrumental examination. Later, however, I was able to recognize a roughened or uneven surface in the lining of the canal and tenderness on pressure was also observed in its posterior and lateral circumference. I further discovered, when the patient was in the inverted position, and with a large, short proctoscope introduced, the lowest three inches of the rectal mucosa was diseased and was secreting greater or less quantities of mucus. When these patients were thoroughly relaxed by general anesthesia and the anal muscles slowly but completely dilated it was observed that the lining membrane of the canal was very fragile and would break open in lines corresponding in direction to the lumen of the gut. These lesions are almost always more prominent in the posterior portion of the canal, in which region digital examination produced most pain. I am confident the

disease has its origin in the mucous membrane of the rectum which is due to the copious bacterial flora present in this part of the gut. The rectal mucosa has but few sensory nerves so the only evidence of disease here would be the presence of mucus and perhaps mild suggestion of warmth. The infection travels by contiguity of tissue into the anal structures and they become diseased also. It is in the anal canal that the sensory nerves are so highly developed and, therefore, cause constant, involuntary contraction of the muscles when they become irritated. A most perfect so-called "vicious circle" is here produced. The highly sensitive anal nerves become involved and as a consequence of their irritable state the muscles begin to contract. The additional pressure upon the nerves produces increased irritation, then the muscles contract more completely and so it continues—one condition aggravating the other.

In operations I have observed that the lower rectal mucosa and anal lining are not only diseased but the muscles and all the surrounding structures are also affected in a well developed case. This pathology affords a reasonable explanation for the uncontrollable nature of the itching and its exceeding chronicity. As I have said the finger will usually detect a slightly roughened condition in the anal canal, most commonly in its posterior aspect but this slight pathology can not be held responsible for the pronounced symptoms. It is for this very reason that almost every disease has been held as an etiological possibility in pruritus ani. It is absolutely impossible to arrive at any correct notion of the extent of the disease until the patient is completely relaxed and the anal region thoroughly explored.

I am convinced, also, that patients, who have idiosyncrasies for certain articles of food, drinks and various excesses have diseased conditions about the rectal and anal regions. These agents serve either to increase the bacterial growth in the rectum or increased blood pressure in the parts. With a diseased condition in the rectum already present, itching can be very easily incited by a slight additional irritation. The idiosyncrasies an individual may have for certain articles of food must undoubtedly be due to toxic agents formed in the

process of digestion. These substances together with the increased bacterial growth cause additional irritation to the rectal mucosa with itching and a sense of heat as a part of the entire phenomenon. If the patient has itching as a consequence of alcoholic indulgence it is due to the back pressure of the blood in the rectal region on account of the sluggish condition of the portal circulation.

TREATMENT. This type of pruritus ani is the one that often refuses to yield to any form of local application. It is really amusing to hear these patients relate with what confidence they once received at the hands of their dear friends, remedies that were never known to fail in a case of fundamental itching. It is difficult to imagine a disease that more completely employs the attention of patients than pruritus ani.

According to the location of the pathology in these cases it is not at all difficult to see why salves and various local agents are not effective when applied as they usually are. On account of the inaccessibility of the diseased structures, scratching and rubbing the outer surface are also ineffective and often serve to aggravate the pruritus. I have often heard patients say they felt as though they could get relief if it were possible to scratch in the anal canal. There is no doubt that relief could be, at least, partially effected in this way.

Upon the hypothesis that this aggravated type of anal itching is constitutional in its origin, remedies are sometimes given by the mouth to effect a cure. I cannot recall ever to have seen any cases recorded where relief has been effected in this way.

In cases where the disease has existed for considerable time and an involvement of the anal canal and surrounding structures has occurred, it is in my judgment a great saving of time and suffering to the patient, with a positive assurance of relief, to operate. I make this assertion as a result of my experience with several of the most exaggerated forms of this condition. In all of these cases there was little or no evidence of local disease upon inspection of the external parts. Careful investigation, however, as above described, gave sufficient evidence

to warrant an operation and in every case the operation revealed much more extensive disease than was previously supposed.

The operation consists in a complete divulsion of the anal canal. The lining membrane of the anus is then dissected loose to a point well above the pectinate line. This can be done in segments, each being clamped and cauterized, or the Whitehead dissection can be performed. In either case the mucous membrane is brought down and sewed to the skin below. This procedure covers over the denuded surface where the sensitive nerve endings have all been destroyed by dissection. It is not desired that the mucous membrane should unite directly with the skin but it will most usually recede to a greater or less distance, leaving a zone to heal by the process of granulation. As the skin and mucous membrane approach each other a transitional tissue—modified skin and mucous membrane—is formed which must exist in every normal anal canal. Nature performs a phenomenon in this case similar to that in embryonic life when the proctoderm ascends from the skin surface to meet the approaching hind gut from above. If the mucous membrane is brought down over the exposed anal surface it is thus protected from infection from above and the wound is much less sensitive, with the additional advantage of facilitating the healing process. I observe this method of operating in all uncomplicated cases of hemorrhoids and have experienced most satisfactory results. The patient has less pain by far than any other method I have ever employed. One or two doses of 1/6 grain of morphia or 1/12 grain of heroine hypodermatically is all that is necessary to control the pain. In two or three days the patient feels, with the exception of a little local tenderness that he is entirely well. The anal region is comparatively dry and clean and the period of convalescence is very much shortened.

The operation, as described, is the first step in the successful treatment of pruritus ani. The mucous membrane in the lower portion of the rectum, as we have said, is diseased and in every case produces more or less mucus. It is absolutely necessary that this source of infection should be eliminated, so in a few days after the operation rectal injections of various

agents should be employed. Normal saline, boric acid, argyrol or silver nitrate solution, etc., may be used. Better results are had by changing the character of the solutions every eight or ten days than to continue the use of the same solution for a long period of time. Infections of the mucous membrane, when they have become chronic, are very difficult to cure wherever found in the body, so a few desultory rectal injections will have no effect whatever upon this pathological condition.

Much has been said about the effect of dilatation upon pruritus ani. Some favor it, but the majority of surgeons care but little for its employment. That which I have said of irrigations can be also said of dilatations. A few treatments given in severe itching of the anal region will have but little effect upon the disease. They must be tenaciously persisted in until the anal and perineal structures become normal. All the muscular structures surrounding the anus are more or less abnormally contracted on account of the diseased condition of this region. The dilatation, then, has the effect of restoring the tissues to their normal state. The blood vessels and the nerve fibers that supply the parts are released from their cramped condition caused by the muscular contraction. Nutrition to the parts is thus much improved. If this procedure is continued for a sufficient length of time, other things being equal, normal condition of the parts will be restored.

The local treatment usually employed in these cases is ineffective so far as producing a permanent cure is concerned. This is due to the fact that they do not come in contact with the diseased structures and are, therefore, ineffective. Their chief function in the treatment is to relieve, so far as they will, the itching and distress until more substantial measures can be employed and results obtained therefrom.

Allingham discovered years ago that dilatation gave relief in the majority of cases and had an ivory plug or dilator made which could be retained in the anal canal over night, if it was so desired. There is no doubt that some patients received a great deal of benefit from such treatment. I have often interrogated patients regarding this feature of the treatment and they almost all agree that it does give relief. I believe the

testimony would be universally favorable were it not for the fact that the parts are often very sensitive, making it impossible to effect dilatation.

It is difficult to explain how it is that so many remedies may be found to give great relief when first employed and after a few applications they not only fail to do good but they aggravate the itching.

If I am treating one of these patients and he comes in the office some day and in an apologetic manner says, "Doctor, I feel very much better this morning; my neighbor gave me a salve last night and insisted so earnestly I promised to try it; and, since doing so I believe it is the remedy that is going to cure my case." I get the name of his remedy, make a note of it and advise him to continue its use as long as he receives a benefit from it. It is usually only a short time until he apprises you of the fact that his recent remedy has failed him and he is of the opinion that it perhaps intensified his suffering after using it the last few times. Since such remedies give temporary relief only, and the patient will not continue their use unless they are beneficial I do not hesitate to allow them all liberties they may wish in using their friend's remedies.

CONCLUSIONS—(1.) The literature upon the aggravated type of pruritus is confusing and gives but little direct information as how such conditions may be cured.

(2.) It is absolutely a local disease, affecting the mucous membrane in the lower portion of the rectum, the anal and peri-anal structures.

(3.) Such cases should be treated by operative methods.

(4.) A small percentage of cases operated on are permanently relieved at once.

(5.) Many cases must have subsequent treatment as indicated above.

(6.) Patients who are less severely affected can be successfully treated without operation.

(7.) The chief function of local external applications is to give temporary relief.

(8.) There is no danger, whatever, of anal strictures from the operation if dilatation is practiced as herein recommended.

THE SPLANCHNOPTIC.*

BY HUGH N. LEAVELL, M. D.

LOUISVILLE, KY.

Although this disease was born only twenty-seven years ago, when Glenard made his first observation, it is only within the past fifteen years that the surgical aspect of this trouble has gained any prominence.

In using the word "splachnoptic" we infer, of course, that every abdominal viscus is the subject of ptosis; as a matter of fact we have several organs with which we do not have to reckon in the general involvment of splachnoptosis. We seldom find the spleen, or the left kidney out of place; it is chiefly the right kidney and the colon with which we primarily have to deal.

Owing to the fact that it was formerly taught that the right kidney was the chief offender many operations were devised for the retention of this organ, and of lessening the many nervous and digestive symptoms which followed as a result of such misplacement. Many operations were also done upon the uterus and its appendages; lacerated perineums were repaired; the uterus was fixed according to the many methods advised by such men as Gilliam, Baldy, Webster and Alexander, hoping still further to correct the evil which was due to a dropping down of any or all of the organs above named. We now realize that it is of little value to repair the perineum when the subject has a backache which is due to a sagging uterus, or to fix the sagging uterus against a flaccid abdominal wall, or to anchor a floating kidney for the correction of nervous or mental phenomena, which we realize are due to a general as well as a local disturbance.

Two general causative factors may be taken into account in consideration of splachnoptosis: First, intra-abdominal pressure; secondly, ligamentous attachments. Either or both of these factors may be influenced in several different ways.

*Read before the Louisville Clinical Society.

First, we have the trophic disturbances, interfering with nervous and muscular integrity of various ligaments or supports, and their attached organs. Second, we may have chronic autointoxication, having its origin in the kidneys, due to improper activity of the kidneys in throwing off the waste products from the system, or the improper assimilation and digestion of foods, and the lack of elimination of toxins by the intestinal tract. Chronic autointoxication may so lower the vitality of any organ and its adnexa as to make it the chief offending factor when once out of place. Some authorities have stated that the chief causative factor of splanchnoptosis is general neuro-toxemia. Whatever theory we may adopt as a cause of splanchnoptosis, we have in the end to deal with a mechanical proposition. It was formerly thought that this process began at the kidney, and as the kidney wandered around from place to place, and floated and turned and twisted, that it finally got other organs in a similar dilemma of restlessness until finally the colon, small intestines, stomach, and even the liver, tried to follow the law of gravitation, leaving its home and resting place to seek new fields and to make general disorder out of the human household, and finally work disaster, and to send hosts to the insane asylum or to dissolution.

Longyear, of Detroit, has demonstrated pretty conclusively that this process of splanchnoptosis has its starting point in the colon or its ligamentous attachments at the under surface of the liver, which ligament we call the hepatico-colic.

The internist sees these cases, and views them from many standpoints; many of them slip from his hands into the hands of charlatans, or they may be fortunate enough to land in the hands of competent neurologists, stomach specialists, or gynecologist, or genito-urinary specialist; no matter where they go they obtain no relief until the mechanical mishap has been cured by a system of mechanics aimed at the primary offender, namely, the colon.

Many patients have had their right kidney anchored with some cessation of symptoms, only to return with renewed vigor as the hepatico-colic ligament became more and more

attenuated and weakened, and the colon, as a consequence, seeking a lower and lower level. As the colon sags we find constipation, malassimilation, with their consequent toxemia.

Kinks are often found in the colon. These kinks become more and more noticeable as the colon becomes filled with fecal matter in its dependent position, the weight itself having a tendency to cause greater kinking.

The clinical symptoms which are presented in a case of splanchnoptosis are very variable. One of the clinical pictures which you see follows frequent child-bearing, lowered nutrition by virtue of long-continued nursing period, heavy household work of those who have been previously weakened physically by pregnancies frequently repeated. We see these patients suffering more and more with constipation, gaseous distention of the intestinal tract, intestinal indigestion, auto-intoxication, sleeplessness, worry, muddy complexion, often sallowness rather than jaundice of conjunctive, headache, mental depression, often edema of the left leg, superinduced by a sagging sigmoid loaded with fecal matter. These patients generally give a history of having taken purgatives until they do not act properly, but act merely as irritants, producing greater and greater gaseous distention and discomfort. The purgatives themselves often increase the toxemia by liquefying the intestinal contents, thereby promoting better absorptions of toxins that should be eliminated. Women of this character are the ones that most frequently consult the gynecologist for laceration which is perhaps infinitesimal, and is only made a subject of concern because it does exist, but having no foundation, in fact, as a cause of the above mentioned symptoms. Those patients are incapable of bearing exertion, tiring easily, not simply because of the exertion, but rather by reason of the toxemia which is present.

The condition of splanchnoptosis is found in children as well as adults, although not so frequently. The splanchnoptosis of childhood usually has about two periods for its manifestation—the first period is that one in which the child loses its superfluous rotundity and begins to grow in height; this occurs between the ages of four and six. If at this period

the child is subjected to a long illness, with its resultant lowered nutrition, splanchnoptosis is likely to result. The next period is at or shortly before the age of puberty, when again the child is brought to another crisis in its existence, and if improperly cared for at this time splanchnoptosis may result. Toxemia may appear, and possibly give rise to chlorosis. The clinical picture of the splanchnoptic in childhood is quite characteristic; the child becomes anemic, its muscles are flabby, has stooped shoulders, greatly projecting abdomen, and contracted chest; the abdominal rather than the thoracic type of breathing being quite noticeable.

Splanchnoptosis as seen in the adult male occurs chiefly in those subjected to sedentary pursuits, bad hygienic surroundings, close confinement indoors, or any other condition which has a tendency to lower general nutrition.

The treatment of splanchnoptosis must be largely mechanical, although it may be divided into prophylactic, medicinal and surgical.

A consideration of the primary causes of splanchnoptosis is of paramount importance in the selection of measures best adapted to the prevention of displacement. The child showing a tendency to weakness of ligaments and muscular tissue should receive the most careful attention during the whole of the developmental period; gymnastic exercises are of the greatest benefit, but these should be used carefully so as to develop the frail tissues slowly, steadily and surely, without depleting with overwork, or crippling by undue strain. Breathing exercises to develop the intercostal muscles and the diaphragm, work with dumb bells to develop the abdominal muscles, correct posture in sitting—all these are of utmost value. Attention should be paid to diet, and each patient's digestive ability and peculiarities studied, so that the greatest benefit should be derived from nutrition, also that intestinal toxemias do not poison this fountain-head of supply.

The patients should be taught regular habits in regard to their bowels, and the free use of cathartic medicines should be prohibited; abdominal massage may be used to advantage.

Increase of body fat is only of mechanical use, as it applies to the support of the colon intra-abdominally, and for this purpose it should be encouraged in every way. Enforced rest and feeding are of value in many cases for this purpose.

Cathartics should be avoided as much as possible, as the colonic irritability is likely to be greatly increased by their use. The use of eliminatives which act by increasing peristalsis, for the purpose of accelerating defecation, may be compared to the principle illustrated by the application of an increase of power to the machine whose bearings require oil—apparent immediate efficiency results, attained, however, at the expense of future usefulness of the apparatus. The action of the bowels must be regulated by remedies which smooth out, as it were, and soothe the sharp angles of the bowel, and at the same time cause the material to be soft and easily moved forward by the natural peristalsis. Nature endeavors to do this by throwing out much mucus, which is so frequently seen in the stools of these patients.

Lubricants rather than cathartics should be the rule, and when used intelligently—frequently by enema as well as by the stomach—the results are usually of the most gratifying nature. Enemas composed of molasses and milk serve a good purpose in cleaning out the lower bowel, while olive oil in increasing doses three times a day after meals, has a tendency to lubricate the intestinal tract, as well as to increase the amount of intra-abdominal fat. The use of intestinal antiseptics in combating the toxemia is indicated. Eserine salicylate in one-hundredth grain doses is useful in promoting relaxation of the nerve control of the bowels.

Any mechanical treatment of splanchnoptosis takes into account the use of abdominal supporters and surgery. The abdominal supporters as made by Katherine Storm, of Philadelphia, and Longyear, of Detroit, will be found the most useful for this condition. The supporters are made with the idea of exerting the greatest pressure just above the pubic bone, and an area about the size of the hand above this point. Pressure exerted in this place prevents the cecum and the sigmoid from dropping into the pelvic cavity.

The operative treatment, Longyear method: The incision, about two and a half inches in length, is begun just over the lower margin of the twelfth rib, and at the outer margin of the quadratus lumborum muscle—which point is a little over two inches from the vertebral spine—and carried a little diagonally outward toward the iliac crest. Skin, fat, and superficial fascia are severed, when blunt dissection is used through the latissimus dorsi muscle to the transversalis fascia, which is grasped by two Kocher forceps and incised between; or the fascia may be entered also by blunt dissection by thrusting through and opening the hemostatic forceps. The subperitoneal (not perirenal fascia) fat appears. Retractors are inserted and the fat pushed downward with the finger, when Gerota's capsule (perirenal fascia) is seen at the upper angle of the wound, near the twelfth rib, as a pinkish-colored membrane, somewhat resembling peritoneum. This is grasped with two fine-toothed tissue forceps and incised between, when the perirenal fat appears. If incision has been made through the transversalis fascia too far downward, and not near the twelfth rib, the peritoneum, and not Gerota's capsule, will be opened at this stage of the operation. The index finger is inserted through the opening in Gerota's capsule, and the lower pole of the kidney located—and it is important that the lower end of the kidney be made out definitely, as the nephrocolic ligament, if grasped and fixed at the side of the kidney, is secured in but a small part and will have little supporting strength. With the end of the finger against the lower pole of the kidney, acting as a guide, the long Kocher forceps are thrust deep in beside the finger and about an inch below the kidney, opened wide, transversely to the axis of the kidney, and the tissue below the finger grasped by gently closing the forceps. Traction indicates to the finger the success or failure to locate the ligament. To gather together these separated fasciculi into one mass of parallel fibers is the next step, which is accomplished by means of the forceps-hook. While the assistant holds the ligament gently taut with the long Kocher forceps, the closed hook is passed, with the finger

as a guide, into Gerota's capsule anterior to the ligament and about an inch below the kidney, and pushed gently backward slightly beyond the lower pole of the kidney, the end being held upward, so that the hook lies parallel with the kidney.

The next step is the suturing of the overlapped margins of Gerota's capsule under the loop of ligament. For this purpose a mattress stitch of catgut is used on each side, the first being passed twice through the free margin of the capsule on the abdominal side, the long ends brought through the loop of ligament under the hook with the curved ligature carrier, passed under the capsule on the vertebral side, and with the handled needle the separate ends passed through the capsule and tied about half an inch from the margin. A similar ligature is then made fast to the margin of the capsule on the vertebral side, the ends threaded through the eyes in the end of the hook and the hook withdrawn, bringing the catgut through under the ligament with it, when it is passed through the outside of the capsule on the abdominal side, about half an inch from the margin of the loop of ligament, and tied under the edge of the flap. The loop of the ligament is still held by the long Kocher forceps, which are not removed till the suturing around the ligament is finished.

The opening in Gerota's capsule at each end of the projecting tissue of the ligament is closed with ligatures, after which the silver wire mattress suture is passed with the handled needle through the transversalis fascia from side to side, broadly, under the loop of ligament and fastened, thus bringing the margins of the fascia under and firmly against the tissue of the ligament. The wire is made fast by twisting the ends, and a small perforated silver shot run over the ends down to the shoulder and crushed with the shot-crushing forceps. The ends of the wire are cut flush with the shot, which leaves the suture in a condition free from any possibility of causing irritation to the tissues. No post-operative trouble is had with this buried suture made with this size of wire (No. 26) protected by the silver shot. Farther closure of the transversalis fascia is made with interrupted catgut sutures.

INTUBATION.

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In the review of surgery no operation is found so quick of execution and so gratifying in result as that of intubation.

Although the conception of tubage of the larynx antedates Dr. O'Dwyer's work, the perfection of the tube by his patient persistence has so identified him with the operation that the mere mention of his name suggests his great gift to humanity.

Since the worth of intubation has become universally recognized there is seldom need of proposing to parents the necessity of cutting their child's throat to save its life, a proposition so appalling and apparently inconsistent that permission to tracheotomize was frequently denied when life might have been saved; and when perhaps reluctant consent is tardily given those of us who have given tracheotomy a fair trial in such cases realize how disappointing, how discouraging and how disfiguring the operation has proven. But the operation to which there is no difficulty in obtaining consent, which sheds no blood which requires no preparation, anesthetic or trained assistant and which can be performed as easily in the dark as in a good light establishes itself as the operation of emergency. That secondary pneumonia is not so likely a sequence as in tracheotomy, that patients can make themselves understood in whispers in spite of the intubation-tube, and that its timely removal assures a quicker convalescence, leaving no wounds to heal nor scars to defigure, establishes intubation as the operation of election.

It was the report of the Committee of the Paris Academy of Medicine, declaring tubage of the larynx as first attempted by Bonchut (1858) impracticable, that silenced for nearly twenty-five years records of any further trial.

It was the report of the Committee of the thirty-eighth annual meeting of the American Medical Association (1887) that dispelled the skepticism which until then beclouded the new

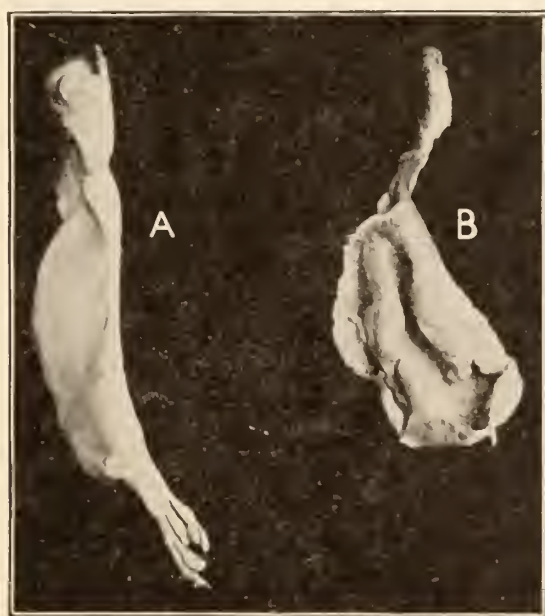
operation, and urged upon the profession its favorable consideration. This committee in declaring itself converted to the "importance and high value of the operation," however recognized the necessity of a "thorough anatomical knowledge, manual dexterity, sound judgment and well-planned collateral management" and here indeed we have a concise statement of the essentials of a competent intubator. It is only in the light of an anatomical understanding that the eye in the palpating finger perceives the landmarks for the tube's guidance. Manual dexterity acquired by previous surgical training and by long preliminary practice on the cadaver is equally important, for in this race with Death quickness and skill are advantages lost if hand and mind have not been trained to co-operate in spontaneous harmony.

Cases of pneumonia and retropharyngeal abscess that I have seen which had been intubated for diphtheritic stenosis indicate the need of more careful discrimination before hastily inserting the tube and sending the case to diphtheritic wards to be there exposed to infection; careful differentiation must be made in edema of the pharynx, edema of the larynx, edema of the uvula, enlarged tonsils, foreign body in the trachea in which better results are obtained by tracheotomy; nevertheless, in some of these I see no reason why tubage should not be first tried. In as much as no harm is done by a skillful introduction the possible relief sanctions the attempt, and on failure we can then resort to tracheotomy for which the intubator must always be prepared.

Good judgment as to the proper time for surgical intervention is necessary. Increasing dyspnea, supra-clavicular and epigastric retraction, threatening exhaustion and weakening pulse indicate the necessity for immediate tubage. The mistake generally made is in delay, the physician yielding to the natural inertia of the family; in view of the fatal consequence, disregard of these vital signs deserves sharpest criticism.

The expert intubator should have a competent understanding of the therapeutic effect of antitoxin so that when consulted he can by the degree of dyspnea, the amount of antitoxin already given and the length of time since administration judiciously decide whether or not immediate intubation is

demanded; he must consider also the age and strength of the patient and how promptly he can be summoned in case delay is decided on. If after weighing these considerations there is doubt—then intubate! Indecision equally with unwarranted inactivity is responsible for the high fatality of acute laryngeal stenosis. This paper is offered as a plea for early intubation; the physician is not justified in assuming the risk of hesitation that under a cyanotic cloud robs the tube of its benefits, the child of its future.



Diphtheritic casts (A) bronchial (B) nasal
(actual size)

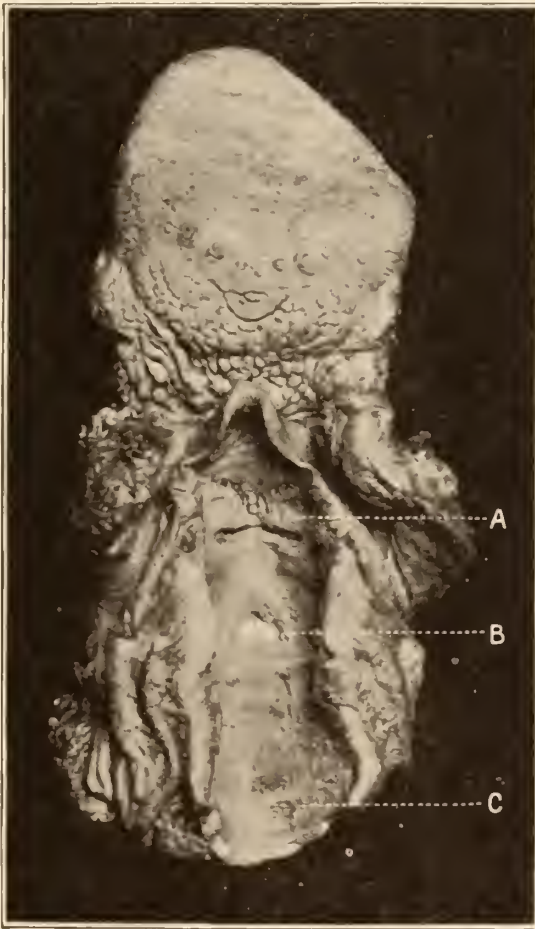
How to Intubate. Appreciating that rest in bed and the avoidance of exercise are essential in the proper treatment of diphtheria, I intubate with the patient in the dorsal recumbent posture which, though rendering the operation somewhat more difficult, avoids the increased cardiac strain incidental to the usual upright position. Enveloping the child in a sheet or blanket, snugly pinned as a mummy dressing to prevent its struggles, further conserves the weakened heart. The gag, placed on the left side, is opened and steadied by a finger of

the assistant as he firmly holds the head in the median line. The intubator at the patient's right, having armed the introducer with the properly selected tube previously threaded, holds the instrument loosely in the right hand while his left index finger is passing into the open mouth and the epiglottis hooked up—then with cautious dispatch the tube is introduced guided by the palm or tip of the left forefinger until its end enters the upper part of the larynx, when the digit is transferred to the head of the tube, the obturator withdrawn and the tube gently pushed home by the tip of the finger avoiding throughout the procedure force, deviation from the median line and prolonged effort.

The tube felt in front of the posterior laryngeal wall, the characteristic metallic cough and the disappearance of inspiratory recession prove with infallible certainty that the tube is correctly lodged; the loop of thread may now be cut at the angle of the mouth and by traction on its long end removed, while the left fore-finger guards against the accidental withdrawal of the tube. Left on, the thread annoys the child and there is always danger of an untimely withdrawal of the tube after the hands are released. It provokes coughing and gagging and in consequence auto-extubation, interferes with nourishment and produces ulcers at the corner of the mouth. Having removed at autopsies larynges bearing decubital ulcers whose position on the head of the larynx plainly indicate the responsibility of the string, it is now my rule, assured by a single inspiration of the position and patency of the tube, to immediately withdraw the string while the gag is yet in place, irrespective of the child's age—unless there is good reason for not doing so. If we only discontinue the customary bridling of the tube over the ear or anchoring it by plastering the string to the cheek, I am sure its appearance in the stools would explain many of the cases put on record as unrelieved by intubation.

In the selection of the tube, the age is not to arbitrarily indicate the corresponding tube; we must be governed by the development of the child—remembering that all children of the same age do not wear the same size shoe, nor is it to be expected that they will accommodate comfortably the same

size tube; choose rather the next smaller size than the one which fits snugly and threatens pressure ulceration. Bokay states that in his collection of 1203 intubation cases of which 360 came to autopsy, (156) or) 13 per cent, of the entire series presented decubital sores which were located in their order of



Pressure ulcers (A) at base of the epiglottis, (B) at the cricoid cartilage, (C) in the trachea.

frequency, in the trachea, at the thyroid and at the cricoid cartilages and varied in depth from one most superficial in type to those exposing and perforating the cartilage and resulting in cicatricial stenosis. The gravest lesions were situated at the

level of the cricoid—here the larynx is narrowest, here pressure on the laryngeal nerves produces paralysis of the vocal cords and with their tonicity impaired the chief means of retaining the tube is lost and the frequent coughing out of the tube is symptomatic of an ulcer at this site. They also occur at the base of the epiglottis from pressure during the act of swallowing. The specimen here presented shows the ulcers at these various points.

These ulcers are largely responsible for the persistent stenosis following intubation; but it must not be understood that tightly fitting tubes are alone to blame, they may be caused by tubes of faulty construction or by perfectly constructed tubes left in too long, or by the traumatism of an unskillful technique. The further consideration of this complication is however beyond the scope of this paper.

Just a word as to some of the dangers and difficulties of intubation. Pushing down membrane in advance of the tube is likely to happen to any one at any time, particularly in late cases of diphtheria and cases that have required repeated intubation, and those in which large doses of antitoxin had been administered, favoring the exfoliation of the membrane. However fatal results are not as frequent as we are led to believe; in over eight hundred intubations I have not had a single fatality from this cause. With its prompt recognition the danger is met by immediate withdrawal of the tube by its string, the head already lowered (in the dorsal method), the loosened membrane is by the expulsive cough expelled and with it probably all further need of a re-introduction.

Literature and text-books continue to warn of the danger of entering the ventricles; such a probability seems purely theoretical. With the modern pattern of the O'Dwyer tube, rounded and swelled at its extremity, and the rigid adherence in technique to the median line, its actual occurrence, in my opinion, is open to serious doubt—in fact I question whether the ventricular cavity really maintains its existence at all in face of the local pathologic condition which calls for intubation.

There is occasional difficulty in hooking forward an epiglottis folded upon itself or shortened by its inherent power of contraction; gentle traction on the base of the tongue

with the armed obturator has often successfully served me in such cases.

Faulty manipulation completely occluding the air passages may induce a laryngeal spasm which obstinately resists the reception of the tube; by withdrawing the obturator as soon as the end of the tube engages in the larynx and allowing air to enter, the spasm will relax—should it, however, refuse to yield it is only necessary to steady the tube by gentle digital pressure on its head until the next inspiratory effort invites its gliding into its bed.

Sudden tubal obstruction by loosened membrane calls for prompt extubation.

Aiming to dispense with the tube as early as possible and thereby minimize the risk of pressure sores I ordinarily remove it in three or four days—particularly when gradual disappearance of visible exudate and general healthier aspect of tonsils and pharynx encourage the trial. Modern vulcanized tubes are longer tolerated than the metallic, which require more frequent cleansing of their irritating lime salt deposits.

Having prepared a duplicate tube for immediate replacement should the necessity require, the extractor is guided by the fore-finger into the lumen of the tube—its jaws closed until so engaged; if however prematurely opened they should be allowed to close upon the finger to avoid pinching and tearing of the mucous membrane. In withdrawing the tube if the turn is too abruptly made, its distal end is apt to seriously injure the posterior wall if not actually rip into the esophagus. A safer method is to raise the tube with the extractor until the guiding finger can rest under its shoulder and then with the unaided digit complete the extraction, care being taken that it be not lodged in the nasopharynx—a most vexing occurrence.

When an operator in the effort to extubate has pushed the tube beyond digital reach and is confronted by alarming symptoms of a supratubal edema a skillful external manipulation will frequently succeed in stripping the tube to within reach of the extractor and thus avoid tracheotomy.

Feeding of cases under three years of age is best done by the Casselberry method: the child, on its back with lowered

head hanging from the edge of the bed or lap of the nurse, is fed with a dropper, spoon or from a duck shaped cup, allowing the liquid to run back between cheek and molar teeth. Older children may be placed face downward and allowed to suck through a catheter, straw or from a bottle—in such a way as to swallow up hill. If liquid as milk, beef juice, soup, etc., is not well taken semi-solids may be given as frozen custards, ice cream, thick condensed milk, scrambled eggs and starch pudding. Few are the cases that must be fed with the esophageal tube, passed through mouth or nose and rarely is rectal feeding necessary.

Hast Building.

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Recent Progress in Medical Science

ECLAMPSIA.

E. B. Cragin and E. T. Hull, New York (Journal A. M. A., January 7), summarize the treatment of eclampsia in the prevention of the products of metabolism causing the morbid process and their elimination when produced, the reduction of blood-pressure, and if these measures do not prevent the toxemia, emptying of the uterus. In all the methods used whatever will reduce the resistance of the patient or seriously damage her must be avoided. The first consideration must be met by dietetic measures, reduction of proteids, etc., while for the elimination the three avenues, the skin, the urinary tract, and the intestinal tract, should receive careful attention. In the reduction of blood-pressure the authors advise the use of veratrum viride, nitroglycerin, and chloral, instead of blood-letting. Veratrum is used by them in 5 minim doses of Squibb's fluid extract hypodermically, the effects being watched, and

a second dose of from 1 to 3 minutes given, if needed, an hour or two later and the tension kept low by similar doses every four hours. In emptying the uterus, when the necessity occurs, the avoidance of anything reducing resistance or damaging the organs must be kept in mind. With a soft dilatable cervix, manual dilatation and version is their preference. But with long and rigid cervix, vaginal Cesarean section has a valuable field of usefulness. The question of the anesthetic is discussed at some length. The pathology of chloroform poisoning is described, both the direct and the delayed effects. The authors report experiments made on dogs with ether which seem to show that the pathologic consequences from this agent are markedly less or absent as compared with chloroform. They have had, since these were made, 20 cases of true eclampsia in which only 1 case was fatal, as compared with the last 20 in which chloroform was used and which gave a mortality of 5, or 25 per cent. The mortality in all the previous cases reached 28 per cent. While 20 cases is a small number from which to draw positive conclusions, the marked effect of chloroform on the organs usually involved in eclampsia and the slight effect of ether on these same organs, makes the use of chloroform in this condition, they say, irrational, and the use of ether rational. The article is illustrated.

PRIMARY STERILITY IN WOMEN.

A. J. Rongy, New York (Med. Rec., Feb. 18, 1911), believes that the great factor in primary sterility is gonorrhea. His observations are based on 120 cases of sterility treated by him, in which the husband was examined as to his part in the causation of sterility. It is unfair to the woman to treat or operate on her until one is sure that the responsibility does not rest with the husband. The prognosis for cure of sterility is unfavorable. In fully 70 per cent. it is due to gonorrheal inflammation, and dysmenorrhea is present in 84 per cent. of the patients. In twenty-two of the patients treated sterility was cured. Dysmenorrhea was cured in 56 per cent. and relieved in 6 per cent. Displacements alone, apart from inflammation and thickened discharge in the cervix, are not frequent

causes of sterility. Sedentary occupation is a frequent cause of displacements and dysmenorrhea. Leucorrhœa was present in 95 per cent. of the patients treated. Infantile uterus seldom causes sterility. Thirty per cent. of men who have had gonorrhœa have azoopermia. The best operative results were obtained by dilatation of the cervix and the introduction of the stem pessary. A considerable number of cases recover under medical treatment.

MOBILIZING JOINTS.

A. C. Strachaner, Minneapolis (*Journal A. M. A.*, March 11), thinks that the proper mobilization of joints is too often neglected and that too much is intrusted to time, passive exercise, etc. While not minimizing the value of massage, hot and cold baths, dry heat, moderate active and passive motion, he especially directs attention to the use of gradual strong flexion or extension by the application of rubber bandages of the ordinary 2½-inch kind, or of double weight for most of the dressings. The manner of the application should be in accordance with the special indications and requirements of each case and should be so made that the contraction of the bandage takes place in the line of the desired increase of motion, i. e., in the line of normal movement. Full directions are given in his paper for flexion and extension by a rubber bandage for each of the larger joints. The method gives a gradual, even, confidence-forming tension and overcomes the voluntary and spasmodic contraction of the guarding, protecting muscles and brings about a mechanical stretching or relaxation. Slight pain and discomfort may be permitted, according to the patient's endurance on the condition that the joint should not be tender on the following day. The first applications should be made every second day, after which they can be given daily. Joints with false or fibrous ankyloses in which there is no danger of activating a quiescent infection should be broken up under anesthesia, the reformation of such ankylosis prevented and the mobility increased by beginning on the second day following the forcible procedure, the application of the rubber-bandage method. The article is illustrated.

SOME REMARKS ON THE SURGICAL DISEASES OF THE BILIARY PASSAGES.

Alexander Bryan Johnson, New York (Med. Rec., Jan. 21, 1911), states that general practitioners do not recognize some facts with reference to diseases of the bile passages that it would be of advantage to the patients to have them know. Gallstones cause symptoms in a large proportion of cases in which they exist. If these cases are operated on early they will run much better chances of recovery, and operation will be much simpler. If they are allowed to drag along for months and years under medical treatment, with attacks of pain and jaundice, the general health and condition of the gall passages will be so impaired as to make operation much more complicated, and death will be more frequent under it. Owing to the poor lymphatic supply of the gall bladder, severe septic infection may occur without marked symptoms. Prolonged severe jaundice adds greatly to the risks of operation. Disease of the pancreas may be induced by biliary catarrh and infection.

POST-OPERATIVE PSYCHOSES.

From his experience at the Bethanien Hospital of Berlin, Dr. E. Schultze (Deut. Ztschrift f. Chir., Bd. 104, Hft. 5) has become convinced that there is no operation which may not be followed by psychical disturbances. Among predisposing factors he cites hereditary disposition, hysterical tendencies, exhaustion and debility due to various causes, intestinal autointoxication, alcoholism, etc. To what extent chloroform anesthesia, the use of iodoform, hemorrhages and operative shock may contribute to psychical disorders cannot be generally determined. In a number of instances he has observed transient delirium, as well as true psychoses, after operations. In regard to the treatment, he advises removal of the cause, and when this cannot be discovered, careful supervision of the patient the use of tonics, heart stimulants, and proper nutrition.

Medicine and the Law

COMMUNICATIONS TO PHYSICIANS ONLY PRIVILEGED BY STATUTE.

The testimony of a physician was not excluded at common law. It is only privileged by the New York statute on the subject (Code Civ. Proc. §834) when his information is "acquired in attending a patient in a professional capacity" and when such information "was necessary to enable him to act in that capacity." The burden is upon the party seeking to bring the case within its provisions. If the physician never attended the defendant (the case in question was one of murder, where the defense was insanity) in a professional capacity, and never obtained information from him to enable him to prescribe in such professional capacity, he can testify the same as any other person. In such a case the seal of confidence existing by virtue of the statute between physician and patient and made necessary to obtain the fullest information in no way applies. Where a physician is sent to a jail by the District Attorney to make an examination of the prisoner's mental and physical condition the relation of patient and physician as contemplated by the section does not exist and the prisoner is not thereby compelled to furnish evidence against himself. In such a case the physician may testify as to the prisoner's condition.—*People v. Austin*, New York Court of Appeals, 93 N. E. 57.

DEGREE OF CARE AND SKILL REQUIRED FROM SURGEON.

A physician or surgeon, by taking charge of a case, impliedly represents that he possesses, and the law places upon him the duty of possessing, that reasonable degree of learning and skill that is ordinarily possessed by physicians and surgeons in a locality where he practices and which is ordinarily regarded by those conversant with the employment as necessary to qualify him to engage in the business of practicing medicine and surgery. This principle was applied in an

action for alleged malpractice at the instance of a young woman who, on the advice of a physician, went to a hospital and was operated upon by one of the surgeons. Later on the same day a minor operation, mainly for the purpose of drainage, was required, and some time later a second incision was made for the same purpose. Still later one of these incisions was opened to secure as far as possible some of the spots found to have been weakened by the infection found upon the occasion of the first operation. The action was for "negligence, carelessness, and unskillfulness" in conducting the operations. It was not contended that the defendant did not possess the requisite learning, skill, and experience. In addition he must "use reasonable care and diligence in the exercise of his skill and the application of his learning to accomplish the purpose for which he was employed. He is under the further obligation to use his best judgment in exercising his skill and applying his knowledge." The complaint alleged that the defendant did not use reasonable care. An examination of the whole case satisfied the court either that the verdict (which was for the plaintiff) was against the evidence, or that it rested entirely upon the charge of negligence and carelessness in the after-care of the patient, a charge not embraced in the complaint. As to the condition of affairs which the defendant found when he examined and operated upon plaintiff, and as to the nature of the operations actually performed, the court did not hold any of the evidence to be of any value except that of the defendant himself and his assistants, for they alone saw and knew the conditions and operations. As to whether or not the operations as performed were proper and in accordance with the requirements of professional skill, the court was obliged to rely upon the evidence of experts having special knowledge of such subjects. The burden of establishing affirmatively either want of skill or negligence in the care and attention of a patient must be assumed by him. If the jury were justified in accepting the plaintiff's version of defendant's neglect after the operation and rejecting the contradictory evidence for the defendant the court held that the verdict should not be allowed to stand, being excessive. The court held that it was error not to permit the defendant to

answer a question whether in performing the operation it did not, in his judgment, become necessary to separate the tissues from the sac in which the pus was found, thus preventing him from showing that he exercised his best judgment. It was also error not to allow him to answer the question, "What instructions did you leave with the hospital staff of physicians or nurses with reference to the care of the patient?"—*Brown v. Goffe*, New York Appellate Division, First Dept., 125 N. Y. Supp. 458.

Book Reviews

THE PRACTICE OF SURGERY. By James G. Mumford, M. D., Instructor in Surgery in the Harvard Medical School. Octave of 1015 pages, with 682 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, \$7.00 net; half morocco, \$8.50 net.

As indicated on its title page, this is a treatise on the Practice of Surgery, and consideration of the principles of surgery is almost entirely omitted. It is in reality a work on clinical surgery as seen at the bedside, in the accident ward and in the operating-room. The plan of the book is somewhat unconventional in that surgical diseases are considered in their order of interest, importance and frequency. Pursuant to this arrangement, appendicitis is given first place. We are a bit surprised to find, in so recent and authoritative a work, the charge "Do not leave the stump undrained, and do not sew up the wound" in early appendectomy. We do not believe that such teaching has the approval of most surgeons. There follows surgical diseases of the abdominal viscera, of the female organs of generation, of the genito-urinary organs, of the chest, face and neck, head and spine, then minor surgery and diseases of structure.

Wide clinical experience has enabled the author to exercise good judgment in the selection of operative procedures, and has been the basis of the many practical suggestions offered. As the author assumes the reader's preliminary training, this book is therefore not intended as a text-book for students. The work presenting the Practice of Surgery as

the surgeon sees it is well gotten up, with scarcely any typographical errors and many excellent illustrations,—in fact it reflects credit upon all who have had a hand in its making.

A TEXT-BOOK of PATHOLOGY. By Joseph McFarland, M. D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College of Philadelphia; Second Edition. Octavo of 856 pages, with 437 illustrations, some in colors. Philadelphia and London; W. B. Saunders Company, 1910. Cloth, \$5 net; half morocco, \$6.50 net.

The first edition has been thoroughly revised and such advances as have been proven of genuine worth have been given due consideration and proportionate space in this new work. On account of the many additions it has been found necessary to use two sizes of type, the more important matter being printed in the standard type and the less important in smaller type. In this way nothing has been omitted and the convenient size of the volume maintained.

The author has been for many years a teacher of pathology and bacteriology, and as such has been the better enabled to present the subject matter in such a manner as will continue to meet the needs of both the student and practitioner.

The work is divided into two parts—general pathology and special pathology; the text although clear and concise is further elucidated by a great number of original illustrations, others have been borrowed and due credit given. It closes with an excellent index covering fifty-two full pages.

The work deserves a place in every well appointed medical library.

THE BLUES (SPLANCHNIC NEURASTHENIA) CAUSES AND CURE.

By Albert Abrams, A. M., M. D., Consulting Physician, Denver National Hospital for Consumptives, the Mount Zion and the French Hospitals, San Francisco. Fourth edition, revised and enlarged. Cloth. Illustrated. Pages 295. Price \$1.50 net. E. B. Treat and Company, New York, 1911.

In this book the author describes a variety of nerve exhaustion, designated as "Splanchnic Neurasthenia." This spe-

cial form of nerve weakness is characterized by paroxysms of depression of varying duration and is popularly called "the blues." No variety of neurasthenia is, in the author's opinion, more amenable to treatment than the splanchnic type. The general treatment and fundamental principles governing treatment is fully discussed as well as the physical methods of relieving congestion of the abdominal veins.

Intestinal auto-intoxication, intimately associated with splanchnic neurasthenia, is regarded by Abrams as, more often, an effect rather than a cause. He considers the sensitiveness of the liver the most trustworthy evidence of auto-intoxication and massage of the organ a valuable aid in promoting the efficiency of the liver as an organ of defense; he emphasizes the importance of correct and thorough massage if results are to be expected.

That this is the fourth edition of the work would indicate that it has been heretofore well received.

INEBRIETY; A CLINICAL TREATISE ON THE ETIOLOGY, SYMPTOMATOLOGY, NEUROSIS, PSYCHOSIS AND TREATMENT AND THE MEDICOLEGAL RELATIONS. By T. D. Crothers, M. D., Superintendent Walnut Lodge Hospital, Hartford, Conn. Cloth. Pages 365. Harvey Publishing Company, Cincinnati, Ohio, 1911.

In this volume the author outlines the phenomena of inebriety and varied symptomology from the scientific viewpoint and endeavors to show that the disease is not a moral disorder but a distinct neurosis and psychosis, preventable and curable by the use of physical and psychical means. The studies and conclusions herein are based upon the author's long practical experience—extending over thirty-five years—in asylums for inebriates.

The treatise presents the disease as a clinical study, considering the general and special causes, pathology, symptomology and development, diagnosis, prognosis and general principles of treatment, giving the home, office and institutional treatment of inebriates. Then appears chapters on medicolegal questions of inebriety, criminal inebriates and forms of irresponsibility.

Miscellany

PRACTICAL GLEANINGS.

Persistent lymphedema of the breast may be the first, and for a long time the only sign of scirrhus carcinoma.

A 60 per cent. solution of nitrate of mercury, as recommended by Sherwill, is an excellent means of destroying small malignant growths on the face. It is to be left on for from five to twenty minutes and then neutralized with sodium bicarbonate.

In the presence of subpectoral or parasternal suppuration be on the lookout for a mediastinal abscess.

In ovarian neuralgia and uterine colic, gelsemium is a better drug than morphine, being equally as efficient without having any unpleasant effects.

In cases of bursitis and tendosynovitis which do not yield to ordinary treatment, the possible presence of a tuberculous process should always be considered.

In children subject to laryngismus stridulus, an examination will often disclose the presence of adenoids.

A malarial seizure accompanied by vomiting and abdominal pain may simulate appendicitis, cholecystitis, or other acute intraabdominal lesion. A leucocytosis even of 20,000, does not gainsay the malarial diagnosis.

When the appendix is so placed that its tip is not readily delivered the "retrograde" removal of the organ is often the simplest and safest method.

For oozing from the brain surface, during intracranial operations, the application of thin bits of absorbent cotton, as suggested by Cushing, is excellent.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton" April 3, 10, 17 and 24.

| | |
|----------------------------|-------------------|
| DR. V. E. SIMPSON..... | President |
| DR. A. L. PARSONS..... | } Vice Presidents |
| DR. W. B. GOSSETT..... | |
| DR. H. N. LEAVELL..... | Treasurer. |
| DR. DUNNING S. WILSON..... | Secretary |

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House April 11 and 25.

| | |
|----------------------------|----------------|
| DR. J. A. FLEXNER..... | President |
| DR. ARGUS D. WILLMOTH..... | Treasurer |
| DR. G. B. JENKINS..... | Vice President |
| DR. H. J. FARBACH..... | Secretary |

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House April 6.

| | |
|-------------------------|----------------|
| DR. W. A. BOLLING..... | President |
| DR. C. B. SPALDING..... | Vice President |
| DR. RICHARD T. YOE..... | Treasurer |
| DR. W. O. GREEN..... | Secretary |

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club April 20.

| | |
|-----------------------------|----------------|
| DR. C. G. HOFFMAN..... | President |
| DR. VERNON ROBINS..... | Vice President |
| DR. CHAS. W. HIBBITT..... | Treasurer |
| DR. A. C. L. PERCEFULL..... | Secretary |

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club April 14 and 28.

| | |
|------------------------------|-------------------------|
| DR. J. GARLAND SHERRILL..... | President |
| DR. J. ROWAN MORRISON..... | Vice President |
| DR. FRANK C. SIMPSON..... | Secretary and Treasurer |

WEST END MEDICAL SOCIETY; meets at the Old Inn April 11.

| | |
|--------------------------|-------------------------|
| DR. I. A. ARNOLD..... | President |
| DR. H. L. READ..... | Vice President |
| DR. JOHN K. FREEMAN..... | Secretary and Treasurer |

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Stanford, Ky., April 20, 1911.

CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., April 13, 1911.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., May 10, 1911.

SOUTH WESTERN MEDICAL ASSOCIATION; meets in Paducah, Ky., May, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Versailles, Ky., April 14, 1911.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., 1911.

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., June 27-30, 1911.

DR. OSLER'S CHALLENGE TO THE ANTI-VACCINATIONISTS.

"A great deal of literature has been distributed casting discredit upon the value of vaccination in the prevention of small-pox. I do not see how any one who has gone through epidemics as I have, or who is familiar with the history of the subject, and who has any capacity left for clear judgment, can doubt its value. Some months ago I was twitted by the editor of the *Journal of the Anti-Vaccination League* for 'a cuspious silence' on this subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal. I will go into the next severe epidemic with ten selected, vaccinated persons and ten selected unvaccinated persons. I should prefer to choose the latter—three members of parliament, three anti-vaccination doctors, if they could be found, and four anti-vaccination propagandists. And I will make this promise—neither to jeer nor to jibe when they catch the disease, but to look after them as brothers, and for the four or five who are certain to die I will try to arrange the funerals with all the pomp and ceremony of an anti-vaccination demonstration."—*American Magazine*.

MR. DOOLEY ON DIAGNOSIS.

"By that time I'm scared to death, an' I say a few prayers, whin he fixes a hose to me chest an' begins listenin'." "Anythin' goin' on inside?" says I. "'Tis ye'er heart," says he. "Glory be!" says I. "What's th' matther with that ol' ingin?" says I. "I cud tell ye," says he, "but I'll have to call in Dock Vinthriele, th' speecyalist," he says, "I oughtn't be lookin' at ye'er heart at all," he says—"I niver larned below th' chin, an' I'd be fired by th' Union if they knew I was wurrukin' on th' heart," he says. So he sinds f'r Dock Vinthriele, an' th' dock climbs me chest an' listens, an' thin he says: "They'se somethin' th' matther with his lungs too," he says. At times they're full iv air, an' again," he says, "they ain't," he says. "Sind f'r Bellows," he says. Bellows comes and pounds me as though I was a roof he was shinglin' an' sinds f'r Dock Laporrattemy. Th' dock sticks his finger into me side. "What's that f'r?"

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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No. 5

Original Articles

CHOLERA BACILLI-CARRIERS.*

BY H. R. CARTER, M. D.,
LOUISVILLE.

Surgeon Public Health and Marine Hospital Service.

That some species of pathogenic organisms can exist and propagate themselves in men without pathogenesis, the men remaining perfectly well, is established. In these cases the men are, by definition, not sick and they are therefore of little interest to the pure clinician. To one interested in preventive medicine the case is different, for in many, if not all, of these infections the conditions are such that, while the man is not sick, he is able, directly or indirectly to communicate the disease, to infect other men. I need only mention malaria and amebiasis among the animal and diphtheria and typhoid fever among the vegetable parasitic diseases for you to recognize the importance of this condition—of these "carriers"—in the propagation of disease and hence in preventive medicine.

Most of us remember when Robert Koch announced the "comma bacillus," as he then called it, as the cause of cholera. He taught that it was found in the intestines of all

*Read before the Louisville Clinical Society.

cases of cholera and only in cases of cholera; that its presence in the stools was pathognomonic—was proof that the person in whose stool it was found was sick of cholera. When then from Dunbar's Institute, in 1893 I think, came the statement that the same organism had been found in the stools of healthy people, the announcement was received almost as a personal insult by the mass of the German bacteriologists. "The master had otherwise taught." Many explanations were given to reconcile these observations with the doctrine of the universal pathogenicity of the spirillum of Koch. (1) That the organism found was not the true spirillum of Koch. (2) That the cases in which it was found were mild cases of cholera. (3) That they were convalescent cases. (4) That it was an attenuated form of the spirillum. It is due to Koch to say he fully accepted the facts as facts and did not pretend to reconcile them with his first dictum. He modified it in accordance with them. I believe, however, that observations on the bacilli carriers of other diseases, especially of typhoid fever, have had more to do with the general acceptance of the cholera-bacilli carrier than the direct demonstration of their existence, although that is demonstrated.

You can readily see the importance of this condition in preventive medicine and especially maritime and other quarantines. Indeed one of the most spectacular of early cases of cholera bacilli carriers was picked up by an officer of my service, Dr. White, who handled the yellow fever epidemic of 1905 so brilliantly. The Hamburg American Liner *Augusta Victoria*, just launched and their finest ship, was to make her maiden trip from Hamburg to New York; White accompanied the passengers to Cuxhafen. They had been under his personal supervision for not less than five days. The crew had been under the same supervision of one of his agents, aboard the vessel. Dr. White inspected the crew. They were all well and had been well during their period of observation. Just as the vessel was ready to sail he saw a seaman coming from the water-closet. Going there he secured a specimen of the stool, which was not diarrhoeic, and taking it back to Dunbar it was found to be swarming with the spirilli of Koch. The vessel was stopped at Southampton and proper sanitary measures taken.

Naturally one considers the bacilli-carriers of cholera in connection with those of typhoid fever. In both pathogenic organisms exist without pathogenesis in the digestive tract of the carrier; in both the intestinal discharges contain the organism and in both the atrium of infection of other people is by the mouth.

In spite of these likenesses there are also some marked differences, and indeed in essentials the analogy to the diphtheria bacilli-carrier is closer than to that of typhoid fever. Typhoid bacilli-carriers are found mainly among those who have suffered an attack of typhoid fever, although "contact" carriers are also found and in them the condition is a continuation of that infection; only it is no longer general but confined to certain viscera. In these cases it cannot become general because the typhoid carrier is immunized against the organism by the original attack. It frequently lasts a long time and at times indefinitely. It is true that convalescents from cholera, especially from light attacks, may retain spirilla in their intestines and discharge them in their stools after they are fairly well and going about. But this is not for long, a few days generally, and no viscus becomes a permanent focus of infection as in typhoid carriers. These convalescents are not what one means by "carriers." They are merely terminating a general infection. Most infectious diseases present analogies, like the scaling of scarlet fever or measles or sputum in the bronchitis of grippe. But we find people who are entirely well and who have not been sick, yet whose stools are loaded with the cholera spirilla. These are the true carriers. And these organisms are not attenuated. To laboratory tests they are as virulent as those from men with choleraic attacks. And among those who have been living exposed to cholera, as the "contacts" of cholera cases, these carriers are not rare, ranging from 3 to 6 per cent. of the healthy individuals. McLaughlin found 6 or 7 per cent. among healthy people living in infected neighborhoods in Manila. This is counting as "healthy" those who have made no complaint and do not on inspection show sickness.

Fortunately for sanitarians this condition is seldom lasting. One case indeed is reported (by Bürger) to have lasted sixty-nine days, but the majority are free inside of five to ten

days. This is why carriers are so rarely found save in "contacts," i. e. people recently exposed to infection. They are rare in general quarantine work. In general the stools of a carrier will contain spirilla every day for a few days; then be negative; then again positive for one or more days and then be negative to remain so. I do not know of any cases which after becoming negative and staying so two days in succession again showed the vibrio.

I have said that after an attack of cholera the stools may be infected for a time after the patient is up and about. Is there a pre-cholera stage in which the stools contain the vibrio? I mean do the stools of people in the incubative stage of cholera contain vibrio? Are the stools infective preceding the attack? It is so asserted by some, but if so it must be very rare and it certainly has not been demonstrated. There are a few cases, however, that seem to invite the explanation that a man may act as a carrier and then from some change in his own condition or in that of the spirillum, develop cholera. This is, however, not proven, only probable. Let me illustrate: Last fall an immigrant, a Turk by the way, arrived at New York quarantine from Marseilles via Naples. From Naples, his last port, and at which cholera existed, he was thirteen days out. He and five others were sick en route and were treated for malaria, the plasmodium having been found. On account of having been sick all of them were taken off at quarantine. There was no special suspicion of cholera and his temperature was normal. He was given a dose of calomel and the next day, the fourteenth from Naples, a dose of salts, the calomel not having acted. On the next day, the fifteenth, there were a number of loose bowel movements and the next day he died of cholera.

Now this case may well be analogous to what is alleged, and I think truly, to occasionally occur in a diphtheria, bacilli-carrier. When one has been in contact with cases of diphtheria, and this is especially true of adults, his pharynx, etc., is quite frequently found to harbor the Löffler bacilli, there being no lesion on it and he remaining well. The bacilli are growing on the mucus membrane, not in it. Now let one of these carriers suffer an injury to the mucus membrane of the infected part and the lesion will likely prove the starting

point for the invasion of the micro-organism and the carrier will develop diphtheria. One can well imagine the case just detailed as a carrier, the vibrio growing innocuously in the contents of his intestine and such absorption of its toxins as occurred causing no injury. On the injury to the mucous membrane or other effect due to the purgative they do attack it and cholera results. Still this is only conjecture. There is no proof that this man was a carrier. True, the time from exposure in Naples to the onset of the disease is far beyond the maximum allowed period of incubation of cholera, which is rarely over two or three days, yet he may have contracted it (a) from some carrier or light case aboard ship, or (b) from some cholera contaminated food which he had carried aboard and had eaten just as the vessel arrived. In either case it is strange that the only passenger of all in the steerage to have thus contracted cholera should have been the one who received the purgative. Frankly, both of these last two explanations seem to me more improbable than the first one. What especial measures are taken to protect communities against infection by these cholera bacilli-carriers? The general subject is too extensive to be treated this evening, but it may be that a brief resume of the special measures actually taken to protect communities against infection by these carriers would be of interest to you.

From what has been said as to the relative frequency of carriers among those directly and at present exposed to cholera-contacts, and the general run of people from an infected district there are naturally different measures for these two classes. We have then:

(1) Measures in the presence of actual or suspected cholera.

The stools of all "contacts"—people believed to have been directly exposed to infection—are examined and carriers isolated. Those found negative are again examined at intervals up to five days from last exposure, the contacts being in the meantime either kept under surveillance or isolated. Usually only one other examination is made—on the fifth day, but it is better to have an intermediate examination made, say on the third day. Its feasibility depends on the number of contacts and the facilities for making the examinations. Of

course if the examination in any case is positive the carrier is isolated and kept until the stools are permanently free from spirilla. This method was followed systematically at Rotterdam during their small outbreak in 1909, and also at Boom in Belgium the same year; also at Marienbad in East Prussia, and at Rhuleben this last fall.

(2) General measures for people from districts infected with cholera.

You will find sanitary protective measures throughout the civilized world are broadly divided into three: for general travel by land, for general travel by sea, and for immigration. I will not go into the reasons for this division, but simply give a brief synopsis of the special measures taken in each division to protect from cholera carriers, which need this protection on account of the movements of people from cholera infected districts.

(a) For general travel by land. No special measures are taken as a routine to protect against carriers among people.

(b) For general travel by sea—maritime quarantine. I would first mention the work, planned by Koeh before his death, and carried out by Dr. Otto Lenz among the Russian raftsmen coming into Prussia by the Memel and Weehsel. As cholera was introduced into Germany by this route, possibly by bacilli-carriers, stations are established on the rivers with laboratory equipment, at which all raftsmen coming into Prussia are examined to determine if they are carriers. The result the last season was that three carriers were found on the Weehsel, none on the Memel.

Hamburg.—Vessels from Riga and St. Petersburg, and other cholera infected ports on the Baltic, on arrival have their water-closets closed and pails placed aboard, both fore and aft. The contents of these pails are removed once or twice and burnt. Disinfectants are added before removal. This is kept up during the stay of the vessel in port. Guards are not kept aboard nor is going ashore forbidden to the crew, but the vessel is under the supervision of the sanitary inspector and harbor police. The object is simply to guard against the danger from excreta so far as it may be done with minimum cost and inconvenience to shipping.

These precautions are not taken for vessels from all ports where cholera prevails, Odessa, etc., if all are well on arrival and with good sanitary history; the length of the voyage being relied on to eliminate carriers.

No examination for carriers is made as a routine at Hamburg, but if a vessel has a suspicious history, diarrhoea, deaths, etc., the stools of all aboard, or at least of all reasonably exposed to infection, are examined. No carriers have been found on vessels here. Hamburg has a large water population—said to be over 50,000—living in barges, canal boats, etc., who are especially risked by cholera contamination of its fresh water harbor.

Rotterdam.—All vessels from the cholera infected ports of Russia, of the Black as well as the Baltic Sea, are boarded off the Hook of Holland by two sanitary inspectors, laymen, who close the water closets and place pails aboard for defecation. These men stay aboard and the vessel then proceeds up to the quarantine station and anchors. A specimen of the stool of each man aboard is taken, special precautions being taken to keep them separate and for identification. When bacterial examination of each specimen has shown that there is no carrier aboard, the vessel is released from quarantine. One carrier had been found, when I was there in early October, out of about 4,500 examinations. This man showed cholera vibrios for four days, then a day negative, then again positive one day, and then negative for four days—at which time I left. It was not believed that he would again show them. He was of course taken off the vessel and isolated in hospital. Similar work was being done at Amsterdam, and one carrier was found there.

The remarks as to the water population of Hamburg may be repeated for Rotterdam with greater emphasis. The floating population is larger, and the proportion of canals, basins, etc., all of fresh water with extremely little outward movement, is greater. Hence the greater need of precaution to prevent the contamination of the Maas.

For thoroughness and perfection of detail too much cannot be said in praise of this work and indeed of all municipal work at Rotterdam.

Measures to protect against carriers among immigrants: Hamburg.—The immigrants from Russia, and indeed from all countries except Germany, are lodged in special barracks under excellent sanitary conditions, some distance from the city while awaiting their vessel. They are confined to the enclosure of the barracks and not allowed to visit the city except on special pass given only for cause. All of their excreta then is deposited in the cesspools of these barracks. This is disinfected daily by chloride of lime, being turned into the sewer. This disinfection is controlled by bacterial tests.

Bremen and Rotterdam.—The immigrants are cared for in barracks, also under excellent sanitary conditions, situated within the city. They are not confined to the barracks but, as long as there is no sickness among them, may go out in the town in the day time, after the morning muster for medical examination, and return to be counted again in the evening.

In both cities the excreta are cared for, in Bremen by disinfection, in Rotterdam by burning. The idea is that on account of the immigrant being in the barracks up to say 9:30 or 10 a. m. and again in the evening that practically all excreta are deposited at the barracks.

At all three places a daily medical inspection of the immigrants is made.

I did not find that any especial precautions against bacilli-carriers among immigrants are taken in any other ports.

Let me tell you only one thing more—to me an interesting and very pleasant one. While no sanitarian doubts the danger that these bacilli-carriers present, yet, as both Dunbar and Van Perk complained, the laity, who must both authorize and pay for the somewhat onerous and expensive precautions taken, are sometimes inclined to minimize the importance of the role of these cholera bacilli-carriers in conveying infection. They said, we are on the defensive; we have never been able definitely to trace infection to them—different, you see, from the typhoid fever bacilli-carrier. Now since my return I find this gap filled. Cholera had been endemic in the Bilibid prison in Manila. It would lessen, or even disappear for a while and then break out again, and this in spite of absolute control of the food and drink and of the movements of the inmates.

McLaughlin examined the stools of some of the prisoners, about three hundred,—there were over three thousand in all,—and found seventeen bacilli-carriers among them. These being eliminated and a compulsory washing of the hands of every inmate after visiting the water closet and before handling or going about food or drink instituted—and carried out—the cholera stopped and stayed stopped. So an American supplied the missing link.

TONSILLECTOMY.

BY GAYLORD C. HALL, M. D.,
LOUISVILLE.

Diseased tonsils seem to have occupied the surgical mind for many hundreds of years. In the earliest medical writings we find references to the operation for their removal. Some of the earliest surgeons dissected out the gland in toto, while those of later generations were content with their partial removal.

The surgical history of these glands has gone through a number of progressions and recessions regarding the necessity of entire removal of the diseased structure.

If Celsus removed diseased tonsils with his fingers, as it is said he did, he must have had a pretty clear idea of surgical anatomy and employed a technique far superior to that employed by many at the present day.

At this writing we are well launched in a wave of radicalism regarding the tonsil. By far the greater number of operators now advise the enucleation of the tonsil in its capsule, that is a tonsillectomy, and this has been the belief and practice of the writer for some years past.

The writer was much impressed with the statement of Dr. Richards, of Fall River, Mass., in his recent collective investigation of the status of tonsil operations, "that judging from the replies that he received from some operators, they had no been my experience, for I have seen many cases operated on clear idea of what constitutes a tonsillectomy." This has

by other men, in whom the patients themselves, in describing the operation, used the term tonsillectomy, and in whom appreciable amounts of tonsillar tissue had been allowed to remain.

This can be ascribed only to a misconception of what constitutes a tonsillectomy, or to faulty execution of the operation.

Let it be affirmed therefore, that the operation of choice in all cases of diseased tonsils is a tonsillectomy, which means a thorough enucleation of all lymphatic tissue and a portion of the capsule, but without exposing, much less including any part of the constrictor muscles.

It is next pertinent to inquire what constitutes a diseased tonsil, or what indications justify their removal.

LOCAL CONDITIONS. First, hypertrophied tonsils, chronically inflamed, causing obstruction to breathing as well as repeated attacks of acute inflammation. This is the most evident type and the one that was first recognized, being the common form in children.

The analogous type in the adult is often in addition associated with acute peri-tonsillar abscess.

Chronic inflammatory conditions associated with middle ear troubles, or associated with diseases of the cervical lymphatics, especially if there be a suspicion of a local tubercular process.

Malignant diseases of the tonsil and syphilis.

The accumulation of cheesy debris within the crypts, having a foul odor and causing a bad breath.

GENERAL CONDITIONS. The impoverished state of the general system may also be due to local tonsillar infection.

Irregular fever without other known cause and chronic tonsilitis with lowered vitality, especially if there be a suspicion of tuberculosis.

The condition in children recognized as below par without other known cause for its existence.

General toxic states in adults without other known cause; often giving rise to arthritic symptoms.

The writer has encountered five cases of chronic retro-tonsillar abscesses that were absolutely without the knowledge of the patient and presented no symptoms whatever of the

pus, until opened in removing the tonsil. Three of these cases had been diagnosed tubercular, all of them recovered following the removal of the tonsil.

In one case of the series, the glands in the neck were affected and a positive tuberculin reaction occurred. Under general dietetic and hygienic measures this patient also entirely recovered. Enlarged glands which were almost level with the angle of the jaw have now entirely disappeared.

It may be well to describe the appearance of the throat in such cases of a toxic nature in adults.

The tonsils may be enlarged or atrophic. In nearly every case they are submerged, very little tonsillar structure presenting beyond the pillars. With the throat in repose, the patient breathing through the mouth, an erroneous idea of the size of these structures is obtained, it appearing as if very little or no tonsillar structure was present. The clew to their boundaries may be obtained by noting the intensely red condition of the anterior pillar in contrast with the mucous membrane of the mouth, the red area marking the outer boundary of the tonsil. A better way is by causing the patient to gag, when the action of the muscles of the throat projects the glands towards the median line and their outline can be mapped out in this way.

Cases too of chronic persistent cough may often be relieved by removal of the tonsils.

This occurs usually in cases well up into adult life and may be accompanied with asthmatic symptoms. Under such circumstances a violent cough reflex may be obtained by titillating the tonsil with a probe and abolished by the application of cocaine.

RESULTS. The results following the operation have been excellent. I know of no other operation in surgery that promises so much of relief with as little risk as this does.

Local conditions are in every case promptly relieved and in nearly every case we can confidently predict an improvement of the general health with a material increase in weight within six weeks following the operation.

Cases showing a strong tubercular history as a rule recover more slowly, though the immediate effects of the

operation are good and more than justify the procedure. In short, any one doing careful, painstaking work is assured of uniform good results and even occasional brilliant ones.

COMPLICATIONS.. Complications following this operation are few and of rare occurrence. The vast majority of cases make uneventful recoveries.

The chief and most feared of these complications is probably hemorrhage. An occasional fatal case is reported in medical literature.

The hemorrhage is of two kinds, primary and secondary.

Primary hemorrhage occurs at the time of the operation or within a few hours after.

It is well to understand that the hemorrhage following tonsillectomy is practically always arterial and consequently the bleeding point should be searched for, caught with forceps and twisted or tied as in dealing with ordinary hemorrhage.

One of the principal arterial twigs lies in the anterior pillar, which must be gently retracted in order to bring it to view. It will then be easily caught and dealt with. However, if too firm traction is made on the pillar outward it will displace the vessel and shut off the bleeding, thus deceiving the operator.

The writer has been fortunate enough never to have a case of fatal hemorrhage. While not prepared to deny the existence of a heavy anomalous blood supply to a tonsil, the writer is inclined to the belief that the majority of fatal hemorrhages are due to the penetrating of the capsule into the structures of the neck, cutting large vessels there.

The most alarming hemorrhage ever encountered by the author was in a case operated on about six years ago. The patient, a large full-blooded man, several weeks previous had had double peri-tonsillar abscesses, to which he was subject. He therefore urged an early operation to rid him of his trouble before the tonsils had a chance to again become infected. Both sides were operated upon under local anaesthesia without complication. About one-half hour following the operation he began to bleed and this kept up for about four hours and finally stopped spontaneously. The patient was put to bed and kept quiet for forty-eight hours and no

further trouble occurred. He made a prompt recovery and gained much in weight to his sorrow.

Secondary hemorrhage is, I believe, always due to an infection.

The wound or blood clot in the cavity becomes broken down about the fourth or fifth day following the operation. The breath has a peculiar fetid odor. The hemorrhage may occur spontaneously following coughing, especially if a particle of necrotic tissue is displaced, or following cleansing of the throat.

The hemorrhage usually stops of itself, but may persist a long while and considerably weaken the patient and our efforts to control it are usually much handicapped by the fear of the patient, soreness of the throat and the necrotic condition of the tissue.

For the prevention and control of hemorrhage the writer has found the following rules and remedies of greatest worth:

Calcium chlorid, grains ten, three times a day for three days to all adults, before operation, removing in adults one tonsil at a time. Following the operation, rest for twenty-four hours in a semi-recumbent position with ice bag to throat. If the hemorrhage is primary, catching the bleeding point with a forceps and applying torsion, the writer never having found it necessary to ligate a vessel.

If hemorrhage is secondary, a thorough cleansing out of the operated cavity with the application of firm pressure for a time; the method of stitching together the pillars over a piece of gauze has never been found necessary, but can be adopted in emergency. Morphine hypodermatically during actual bleeding to quiet the fears of the patient and reduce the action of the heart and blood pressure is necessary, followed by a mercurial purge and saline after it is controlled.

Infection of the tonsillar wound with resulting general symptoms has never in the writer's experience proved serious.

The wound usually heals in from a week to ten days without disturbance except as to soreness in the throat with difficulty in swallowing and very often pain in the ear.

The only fatal case ever seen by the writer that could be attributed, even remotely, to the operation was as follows:

A young boy eight years of age was operated upon at the City Hospital under general anaesthesia, tonsils and adenoids being removed. The parents removed the child that afternoon against the advice of the house surgeon and without the knowledge of the writer. Nothing more was heard of the case for nearly ten days, when the father reported that the boy was choking to death. He was at once removed to the hospital, where an examination was made and the patient found to be suffering from far advanced laryngeal diphtheria. He died in forty-eight hours in spite of anti-toxin and tracheotomy, intubation being impossible.

It was found on investigation that the child had been removed to a house in which both diphtheria and scarlet fever were present, which undoubtedly accounted for his infection, though inspection at the time of his readmittance showed the tonsillar area to be in good condition.

One case of troublesome secondary hemorrhage occurred recently in the practice of the writer. A boy age sixteen, rather delicate, had one tonsil removed without any complications. The blood clot formed in the area occupied by the tonsil and was not disturbed as it protected the tender surfaces. On the fourth day following the operation a spontaneous hemorrhage occurred early in the morning, which was repeated but stopped spontaneously.

The patient had a fetid odor to the breath and the wound was occupied by a sticky, necrotic clot with foul odor. This was impossible to remove in toto, with the result that on the second day the hemorrhage was repeated. As it was still impossible to remove all the necrotic area, a small portion was allowed to remain, and two days following the second a third hemorrhage occurred, after which the entire area operated I found was clean and the hemorrhage ceased. The patient from that time made a steady recovery.

It is my belief that hemorrhage arises from a soluble ferment generated by the bacteria, which evidently has hemolytic properties.

Remote results and sequelae of the operation, such as pain from the scar tissue or adhesion of the pillars, loss of portions of the soft palate, impairment of the voice in speaking or

singing, the writer has never encountered in his own experience.

THE OPERATION. The operation itself can be done in various ways, there being almost as many methods as there are operators. The prime requisite being to remove the tonsil in its entirety, though nothing but the tonsil.

Two methods which the writer has found most satisfactory are as follows:

The first is used in all cases where a general anaesthetic is given, confined almost entirely to operations upon small children. The patient is anaesthetised to full surgical anaesthesia, in case ether is used atropin preceding the operation is indicated. A Pynehon mouth gag is used to keep the jaw separated and a strong tongue depressor with a flexible blade is used to hold the tongue well down and out of the way. The tonsil is pulled well out towards the median line by the writer's tonsil tractors, putting the muscular tissue on the stretch. A pair of scissors curved on the flat is used to start the dissection, beginning well down on the triangular fold and moving to the epi-tonsillar space above the junction of the pillars, the traction being made during all this time. If desired the dissection may be carried down freeing the posterior pillar, but this is not necessary. The scissors is then laid aside and the tonsil is stripped loose from the bed down to the base of the tongue with the index finger, the base being removed with a snare.

After the first tonsil is enucleated its bed is inspected for any bleeding points, which are attended to, and the second one is similarly treated, after which the adenoid is removed.

The advantages of this operation are numerous, the chief of which are, first, it is rapid, requires less anaesthetic and the operator is not bothered by the blood, less hemorrhage occurs than when cutting instruments are used and finally the plan of cleavage being started by the incision made with the scissors, it is impossible to get less or more than the entire tonsil.

The writer has found the sense of touch fully as satisfactory in defining his landmarks as the sense of sight.

At the conclusion of the operation the patient is put to bed, small doses of morphine and atropin given, ice to throat, kept quiet for twenty-four hours, after which time they can be up and around and after the third day resume their usual habits.

The other operation is executed under local anaesthesia and applies practically to all adults and older children. It is my practice to remove one tonsil at a time in these cases, since there is less shock, less soreness afterwards and less danger of hemorrhage, or if hemorrhage does occur, no doubt exists as to which side it is coming from.

The patient is anaesthetised by local applications of pure powdered cocaine moistened with adrenalin, 1:1000. Care should be taken to avoid dripping the solution over other parts of the throat and the application should be limited to the area you wish to prepare. After three or four such applications at intervals of as many minutes, about one-tenth of a grain of cocaine, diluted with about a dram of water and one or two drops of adrenalin, is injected behind the tonsil at its upper and lower pole. Immediately following the injection the operation can proceed. As before, the tractors are inserted in the upper portion of the tonsil, preferably in a crypt. The tonsil is pulled outward towards the median line, putting the mucous membrane on the stretch. The dissection is begun from below upward, all the time keeping the mucous membrane on the stretch and never cutting in the dark behind the pillar. The most important feature is dissecting out the upper rounded extremity of the tonsil, which is then pulled out and displaced downward, bringing into view fine white strands of capsule attached to the tonsillar recess.

A scissors curved on the flat hugs the posterior surface of the tonsil and this is freed by a series of short clips from above downward until the base is reached and finally severed with a snare. The pillar is then retracted, the ends of the vessels sought for with artery clamps and torsion applied. This is usually easy, since there is no bleeding immediately following the operation and the vessels can be distinguished as bright red spots in the fossa. The area is then painted over with compound of tincture of benzoin and the patient placed in a

semi-recumbent position with the ice bag to the throat. To combat the systemic effects of the cocaine and to allay the nervousness the writer has found nothing so effective as apomorphine, hypodermatically, in one-twentieth grain doses, repeated every half-hour or until the patient is resting comfortably and the pulse full, slow and regular and the respiration easy. Contrary to expectation it never produces nausea and allays the nervous symptoms of cocaine better than any other drug the writer is familiar with. The patient is kept quiet from twenty-four to forty-eight hours, after which they can be up and around, though not to do any active work.

The after treatment in all cases is practically the same. It constitutes, after the initial period of rest, in keeping the throat clean with a gargle, salt water and a few drops of carbolic acid is satisfactory, or 1:2000 bichlorid of mercury. On the third day it is well for the surgeon himself to apply nitrate of silver, a dram to the ounce, to the granulated areas, followed by compound tincture of benzoin, which keeps the wound sweet and stimulates granulation.

DIET. Diet is an important point. The writer advises patients not to eat anything during the first twenty-four hours, not to drink much water but to quench the thirst with pieces of ice held in the mouth. In case, however, hunger becomes pressing, ice-cold milk custard, or ice cream only are allowed. On the second day warm liquids are permissible and after the fourth day a semi-solid diet is resumed, which gradually is built up to the regular fare. A printed list of instructions is given to each patient, embodying all the emergencies that could arise as well as the ordinary directions. The writer believes this of importance, since people are so apt to forget verbal instructions.

To sum up, the technique of the operation as performed by the writer is embodied in the word traction, because the tissues are kept upon a stretch during the whole of the operation and the tonsil shelled out of its bed step by step and causing at the same time the eversion of this part to the level of the pillars, so that each step of the operation is directly under the control of the eye, thus avoiding cutting into the deeper structures, which would result in a serious hemorrhage,

or not cutting deep enough, thus leaving a portion of the tonsillar tissue remaining.

It obviates too the necessity for tonsil punches or any instrument designed to punch out areas of the gland remaining. This has always appeared to the writer a very hazardous procedure, since it can not be under the control of the eye and could easily bit through a vessel of considerable size, producing serious hemorrhage.

The conclusions embodied in this paper are the result of the writers five years' experience with tonsillectomy, during which period he has performed some seven hundred operations, and the technique described has been reached after a careful trial and consideration of others that were advocated from time to time.

The greater his experience becomes the better he likes the operation described and can recommend it confidently to all those whose work falls in this line.

Gaulbert Building.

ENTERITIS.*

FROM THE VIEW OF A GENERAL PRACTITIONER.

BY C. E. LEATHERMAN, M. D.,
LOUISVILLE, KY.

Inflammation of the alimentary canal may involve any part of its mucous surface from the inlet of the stomach to the end of the rectum. It may be also said that such inflammation is prone to deepen and approach nearer to the peritoneum as we pass from the stomach downward.

Catarrhal inflammation of the mucous lining of the stomach is a very frequent accompaniment of indigestion. This is especially the case when the indigestion is due to excessive indulgence in either food or strong alcoholic drinks. It is seldom that this form of inflammation is deeper than the mucous membrane. Most cases of fatal acute indigestion involve the tissues no deeper than this structure. So much is

*Read before the Louisville Society of Medicine.

this is the case, that whenever we find inflammation of the stomach involving the muscular tissue or penetrating to the peritoneum, we have strong reason for suspecting the ingestion of some form of irritant.

The superficial character of intestinal inflammation in a great measure continues throughout its course until it passes into the colon. The duodenum is subject to a rather stubborn form of inflammation that very commonly gives rise to jaundice. Uleers, too, are more common in the duodenum than in other parts of the small intestine.

The deeper involvements of the lower extremity of the jejunum, due to inflammation of the appendix, really belong outside of the class of troubles we are considering.

On reaching the colon, inflammations usually take on a much more severe and dangerous form. In hot countries inflammation of the colon, under the various names of colitis, dysentery and flux, are probably not surpassed in fatality by any other form of disease.

ETIOLOGY. It is not possible to treat the various forms of disease of the alimentary canal without taking into consideration, in each particular instance, the cause of the diseased condition; but the writer does not propose to add anything to the manner in which the various causes operate, nor to enter into an extended consideration of them. That must be left to the profound investigators who have special fitness and opportunity for that work. It is only in a crude way that the causation of the diseased conditions in question can here be considered, and no further than is indispensable for intelligent treatment.

TREATMENT. The first thing—and probably the most important thing—in the treatment of enteritis, is to remove the offending cause.

If the stomach is the viscus involved, speedy emptying is the first indication. But even this may be preceded by a palliative. Carbonate of soda and common salt are always at hand, and seldom fail to be useful. The laity ought everywhere to be instructed in the use of these measures as procedures of emergency.

Vomiting is to be induced with the greatest promptness and with the least possible irritation. Often this can be effected by passing the finger or a feather into the fauces. After thorough emptying, the walls of the stomach may be protected from each other by the free use of bismuth, accacia, or even the old-fashioned slippery elm, frequent sipping of cold water, and, above all, absolute rest should be secured. Any ill condition of the stomach that is chronic must be separately considered and treated.

The forms and causes of catarrhal inflammation of the small intestine are so many and so varied that only a few prominent features may be considered. Here, too, the first indication is, if possible, to remove the offending cause, and this can be done only by purging. The question, then, is the selection of a purgative. For this purpose, castor oil is one of the best preparations, though many prefer sweet oil, the salines, or senna freed from the bitter and griping principle, as is now usually secured in its preparation.

Epsom salts, to elderly people and children, is often irritating. Rochelle salts is nearly as active, and is much blander.

Preparations of senna are commended by their great certainty of action. Sweet oil may be given in large quantities, four to six ounces, or more. It is not only a gentle purgative, but keeps apart the walls of the bowel while acting, and is absolutely harmless.

If the doctor is treating himself, or one of his own family, where he is not over anxious to appear wise or learned, a good dose of chloride of sodium cannot be easily improved upon.

In colliquative diarrhea of the aged, in ill-nourished infants, and in many other forms of diarrhea from vital exhaustion, it will many times happen that nothing can be accomplished.

But having removed all foreign substances, it now remains to keep the inflamed surfaces from coming in contact in such a way as to irritate each other, and to astringe the flaccid gland openings.

Bismuth, aecacia and slippery elm have already been mentioned as mere protectives. Some physicians claim to have obtained good results from petrolatum, and there seems no reason why this substance, perfectly inert, as it is, should not prove an excellent protective for an inflamed bowel.

After the bowel has been cleansed, comes the time for astringents. The aim in giving astringents is to have their action as strictly local as possible. For this reason, the preparations containing tannin are probably to be preferred. Sugar of lead, sulphate of zinc, alum, and the like, must be given with care and slowly. Tannin, however, may be given with the greatest boldness.

It is said that travelers on the western plains used to rely almost entirely on a decoction of the roots of the wild rose, and of certain kinds of dock, in the treatment of both diarrhea and dysentery. A pint of strong decoction of the root of the wild rose was drunk at once, and in a few days the patient was expected to be in his saddle and on his way.

Tannin as sold in the shops, if given slowly, soon saturates the blood, disgusts the patient, and ceases to be of advantage.

DYSENTERY. The treatment of the alimentary canal might almost, and not very mistakenly, be called internal surgery. Protection of the surface of the inflamed bowel is the one thing to be arrived at. An inflamed colon is, in its nature, simply an abscess with the pus retained by the sphincters.

We first, then, clear this abscess with a saline purgative, Epsom salts, or chloride of sodium being preferred. After this, tannin may be given as previously mentioned, with due care not to nauseate.

Fortunately, we are not here restricted to remedies given by the mouth for the protection of the intestinal walls.

Great care should be taken that nothing irritating be allowed to pass down from the small intestine to irritate the lining of the colon.

But the great reliance must here be on injections. Hot water, just below scalding temperature, with a bare flavor of salt, is to be used every half hour, or hour so long as there is pain. Indeed, pain ought to be wholly controlled in this way.

No pus proceeding from the inflamed wall is to be allowed to remain in the abscess cavity long enough to cause irritation by reason of bacterial decomposition. Great care is to be taken to prevent irritation by the syringe.

Opium of itself will not do harm but good, if it does not cause irrigation of the bowel to be neglected, or offensive secretions overlooked.

Sometimes, in cases of chronic dysentery an injection of nitrate of silver, ten grains to the ounce, followed immediately by a solution of chloride of sodium to neutralize it, may do good.

Of course, in this, as in all other intestinal trouble, quiet and rest in bed is to be enforced as strictly as possible.

IS ANYTHING THE MATTER WITH THE DOCTORS?*

BY WILLIAM J. ROBINSON M. D.,
NEW YORK.

President of the American Society of Medical Sociology.

Is anything the matter with the doctors? The original title of tonight's discussion was: "What Is the Matter with the Doctors?" But as that title contained the definite assumption that something was the matter with the doctors, it has been modified to a milder form. But even in this form it assumes that something is the matter with them. Otherwise the question would not be asked. We do not ask: Is anything the matter with the chemists? Is anything the matter with the physicists? Is anything the matter with the electrical engineers? And the reason we do not ask this question in reference to them, is because we know or assume that they are all right. We assume that they know as much as can be known at the present time, with the accumulated facts and the instruments of precision in their possession. And by asking the question: Is anything the matter with the doctors, you at once betray that you have a lurking suspicion or the positive certainty that something is the matter with us. And there is no use denying that such a suspicion or certainty is harbored by a large num-

*Read before the Liberal Club of New York, March 15, 1911

ber of people, particularly of the cultured, or perhaps more correctly, the quasi-cultured classes.

The so-called health journals, practically all of which are edited by men who have axes to grind, and who are perfectly innocent of any knowledge of medicine, are doing their utmost to foster suspicion and fan distrust in the medical profession. A sensational book, which claims to depict the chaos and crime in the medical profession, has recently been published and is exerting a pernicious influence on the public, because the focus through which it presents the facts or alleged facts is false and the picture is therefore false and distorted. The quack journals, sensational and untruthful books, and a few ignorant laymen who pretend to assume the role of physicians, have been inciting the public against the medical profession, and by bringing false charges against us, have partly succeeded in creating a feeling of animosity and distrust. You know how critical and analytical our dear public is. You can make it believe anything if you have only enough assurance and impudence; the more stupid, the more sensational the accusations, the more readily will they be believed.

Let us see what the charges against the medical profession are, what indictments a biased, inimical and ignorant jury has drawn against us.

THE TERRIBLE CRIME OF USING DRUGS.

The first and the most universally heard charge against us is that we are drug dopers. That is, that we do not treat people rationally, hygienically, by the aid of diet, fresh air, sunlight, etc., but that for every condition we give drugs, that we fill the people's bodies with poisons and that by our drugging we often create worse diseases than those we intended to cure. This charge is repeated day in and day out by the quack health journals, which I referred to above. To speak out of the utility, of the indispensableness, of the live-saving properties of a large number of drugs is not the place here. I will merely repeat what I have said elsewhere, that he who has seen the lesions of syphilis melt away under the administration of mercurry, iodine or 606; he who has seen the chills and fever of malaria disappear as if by magic under a properly administered dose of quinine or arsenic; he who has seen a

miserably dwarfed, imbecile little cretin grow in stature and gain intelligence from day to day under the use of thyroid; he who has seen the pale cheeks of the chlorotic or anemic girl change into red roses under the administration of iron and arsenic; he who has seen a waterlogged old man or woman, unable to take a step without getting out of breath, take on a new lease of life under digitalis; he who has seen a nasty diphtheritic membrane roll away as if by the touch of a magic wand after a dose of antitoxin; he who has seen the fearful torturing pain in a case of renal or gallstone colic cease instantly after an injection of morphine; he who has seen the life-saving effect of a few drops of amyl nitrite in a case of angina pectoris; he, I say, who has seen all those things will not agree to cure the sick without the use of drugs. And I will say, that if you will show me a man who absolutely denies the utility of drugs, I will show you a man who has never used drugs or who is ignorant as to their proper use.

But as to the charge that drugs constitute the principal factor in our treatment, I can only say that such a charge is maliciously false. Drug-treatment constitutes only a small—a very small—part of the modern practice of medicine. There is not an agent or method, material or immaterial, that we, members of the regular medical profession, do not employ in the treatment of disease. Regulated diet, exercise, water internally and externally in its numerous hydrotherapeutic methods, mineral waters, baths, direct sunlight, fresh air, heat in its multitudinous forms, massage, electricity, roentgenotherapy, Finsen light, radium, antitoxic sera, vaccines, suggestion (psychotherapy), hypnotism, all of these agencies we, regular scientific physicians, make use of freely in our endeavor to cure and to prevent disease. We may use only one of these agencies in the treatment of many of the diseases, but we do not hesitate to use all of them whenever they seem indicatd.

A Handbook of Practical Treatment has just come off the press. It is authoratative and presents the latest developments in the treatment of disease as it is practiced by the regular medical profession. The first sixteen chapters deal with the general treatment of disease, and of these sixteen, only one is devoted to blood therapy!

Take Osler's Practice of Medicine, and you will see that drug treatment is playing a very secondary role, one might say an insignificant role, in the entire book. Inquire at, or study the reports of our foremost hospitals and you will see that drugs play a secondary role. Nursing, hygiene, proper feeding, cleanliness are our chief agents in fighting disease. But, contrary to the quacks, we know the indications for drugs, we know the proper use of drugs, we know where they are invaluable; and when we do need them, we can use them fearlessly and unhesitatingly.

SURGICAL OPERATIONS.

Another serious charge refers to surgical operations. By one part of the people we are attacked for performing any kind of surgical operations, by another part we are accused of performing surgical operations too frequently, in many cases where they are not at all indicated. To the first charge it is not necessary to reply. He who denies the necessity of any surgical operations, he who denies that very often a surgical operation offers the only chance of saving a life, as is done by many of our "No Knife" quacks in the quack journals, puts himself outside the pale of rational thinking beings, and no discussion is possible with such a person.

As to the second charge, I must confess that it is true of a small number of our profession. It is true that operations are sometimes performed on people who would be better off without them. But this is not due so much to greed and moral perversion as to a certain bias, of which none but the broadest-minded of specialists can be free. A man who is working in one line often becomes narrow and seeing many brilliant successes from his operations, he becomes unconsciously biased in favor of operations. And as it is true that in many cases an operation will do in two weeks what medicinal and hygienic treatment will not accomplish in years, it is not surprising that some surgeons are inclined to give the patient the benefit of the operation, where perhaps an internal physician would consider the operation contraindicated or not at all indicated.

It is true, however, that there is a small percentage of physicians who are devoid of conscience and who will do almost anything for the money. But this is not anything special and unique, it isn't something peculiar to the medical

profession. Rascals and brutes are found in every profession, in every trade, and will be found in every profession and every trade as long as we live under our present beautiful competitive system. And the entire profession should not be held responsible for the misdeeds of a few.

THE PRACTICE OF ABORTION.

Another charge against the medical profession is that it is guilty of the practice of abortion. That the entire profession is guilty of this practice is of course false. That a large number of physicians—the percentage is of course impossible to state with definiteness, but I would say anywhere from 10 to 25 per cent.—are practicing it habitually is true. But I would not blame the profession very strongly for it. It is the State that is to blame for this condition of affairs. Wherever there is a demand there will be a supply, and the demand for abortions is tremendous. The layman has no idea of the frequency of the demand and of the tremendous pressure that is brought to bear upon the medical profession. I venture to say that for every abortion performed by a physician, at least one hundred demands, requests and pleading supplications are refused. If this were not so we would not have the thousands and thousands of non-medical, male and female, abortionists, who thrive throughout the country. A million abortions, at a very conservative estimate, are performed annually in the United States; and I am sure that 75 to 90 per cent. of them are performed by non-medical and professional abortionists, who are outside the pale of the medical profession.

ARE WE ATTEMPTING TO FORM A MONOPOLY?

Another charge that has been heard a good deal of late is that we wish to form a trust, a monopoly, and that we intend to compel everybody to treat patients according to our own methods. How absurd this charge is will be seen at once if I mention that in the New York State examinations, for instance, no questions are asked on therapeutics or the treatment of disease. We do not wish to interfere with anybody's methods of treating disease. We leave that to the conscience and good judgment of the individual physician. And our only demand is that they who undertake to treat human diseases

show that they have spent some time on the study of the anatomy and physiology of the human body and on the pathology and symptomatology of its diseases.

Our examination questions are only on subjects which admit of no discussion, which are accepted by everybody, the same as problems in chemistry or physics are universally accepted. All uncertain or debatable points are entirely left out from our examinations.

WE MAKE MISTAKES.

Another charge against us is that we make mistakes, that we do not always diagnosticate the diseases correctly and that we do not always treat properly. That is true. We do not claim to be infallible, we do not claim to be omniscient. Medicine has not yet reached finality, medicine as a science is, as I explained many times before, but half a century old, and some diseases are so obscure, so complex, that with the present state of our knowledge a mistake is occasionally unavoidable. But we are fighting hard to remove the veil from Nature's secrets and every year we know more and more, and our mistakes are becoming fewer and fewer.

Please remember that it is but yesterday that we began to use the same methods in investigating medical problems that are used by other exact sciences. And our reward has been rich indeed. To mention but one of the scourges of humanity, namely, syphilis. We have learned more about that disease in the last five years than in the preceding 500 years. The cause of the disease—the *spirochaeta pallida*; the best means of diagnosing the presence or absence of the disease in the system—the Wasserman test, and one of the most powerful remedies in the treatment of the disease—606 or Salvarsan—have all come to us within the last five (to be more exact, five and a half) years. The same may be said about cerebro-spinal meningitis. Three years ago we stood before that monster humble and helpless; now, thanks to Flexner, we have a powerful weapon, and we rest many victims from the monster's clutches. And I venture to say that if in five years from tonight you arrange a similar dinner, I shall be able to tell you of some very remarkable discoveries made between March 15, 1911, and March 15, 1916.

But do the quacks, the irregulars, and those who believe with them, appreciate the fact that when they announce with glee that physicians make mistakes, they thereby pronounce their own doom? For, if physicians who have spent several years in preparatory studies, who have had years of practice, who have every possible diagnostic instrument, who call to aid the chemical, pathological, bacteriological and biological laboratory, make mistakes, how can the quacks and faddists expect rational, sane people to believe that they, who have not any of these advantages, can diagnose correctly and treat properly?

PERSONAL EXPERIENCE SHAPES OUR OPINIONS.

We are no more responsible for our honest opinions than we are for the color of our hair, the length of our faces, the girth of our chest. Our opinions are the conglomerate result of heredity, environment, our bringing up, our companions and friends, the school we attended, the lectures we have heard, the books we have read. Our personal experiences have a tremendous influence on the shaping of our opinions. And it is possible that the unfavorable opinion which some laymen have of the medical profession is due to some unpleasant personal experience which they have had with some member. And it is possible that the favorable opinion I have of the medical profession is due to my exceptionally favorable experience with my colleagues. God gives us our relatives, our friends we choose ourselves. But I can truthfully say that the physicians whom I call friends are not guilty of the things with which our opponents are fond of charging the medical profession. I can sincerely say, that the physicians whom I know, are noble-minded and sincere, are always studying and investigating, are sympathetic with the suffering, are up to the minute with all the latest advances in medicine, are careful and conscientious in diagnosis, are rational in their treatment, using drugs only where distinctly indicated, employing every hygienic measure, relying, to a great extent, on good nursing and dieting, and upon the *vis medicatrix naturae*, never prolonging a disease, never making an unnecessary visit, never operating or advising an operation unless positively indicated—in short, they are honest, capable

men, to whom the public can entrust their bodies with implicit confidence. Of course there are incompetents, and there are dishonest men in the medical profession, as there are in every profession, in every trade, in every line of human activity. But when we judge of a profession we judge it by its highest representatives, or at least by the rank and file, but certainly not by its worst specimens. And the rank and file of the medical profession is sound to the core. It is sincerely desirous of learning and advancing, it is sincerely desirous of doing its best for humanity. It reads, studies and investigates and is earnestly doing the best that can be done.

THE SPECTRE OF THE SEVENTEENTH CENTURY.

The trouble with our friends is that they set up a man of straw and then proceed to demolish him. They see a medical spectre of the seventeenth and eighteenth century and imagine that that is the physician of today.

Just as some of our free-thinking friends see a Torquemada in every priest or minister—they will not admit that there are quite a few decent people among the clergy of today, people with broad minds and big hearts, intensely interested in the welfare of humanity; just as our anarchistic friends still see a Phillip the Second or an Ivan the Terrible in every ruler—you cannot make them believe, for instance, that George V. and William H. Taft are quite human, and, while certainly no geniuses, are at least as intelligent as the average Englishman or American—so our anti-medical friends see with their mental eye an old, bewhiskered gent (Elbert Hubbard, who has become one of the most obnoxious of quacks, always pictures the doctor as a man with whiskers) with a big syringe, with a blood-letting lancet, with chisel and saw, with powerful emetics and cathartics, with balls of opium and pocketfuls of calomel; a gent without any culture, narrow-minded and hide-bound by tradition, without any knowledge of hygiene or sanitary measures, having no idea of ventilation, fresh air, dietetics, the power of suggestion and the other immaterial agencies. Such is the picture some of our friends have of the modern medical man, or at least that is the picture they try to show to a gullible public—and they proceed to hammer it, stab it, tear it to shreds and tatters and to show to the

same gullible public their own superiority. No wonder they succeed.

That the picture is false and distorted—maliciously or ignorantly—goes without saying. The physician of today is a cultured man with a good preliminary education—and the entrance requirements are getting higher and higher—a good medical education, and he is a critic, a skeptic and quite often he is a true scientist.

That we do not yet know everything, that some diseases, cancer for instance, still baffle us, is true. But there is a great difference between not knowing everything and knowing nothing, and as said before, every year we learn a little more. But one thing is sure: What we can't do, the quacks and irregulars surely cannot.

WHAT HAVE WE ACCOMPLISHED?

I have touched upon and answered the charges which our enemies are making against us. Let me now devote two or three minutes to a consideration of the benefits which we have conferred upon humanity, but which our enemies forget to credit us with. To state that medicine is advancing from year to year, and that from year to year we are improving in our diagnosis and treatment of individual patients must be in the nature of a mere assertion, for our enemies deny it. There are two things, however, which they cannot deny—for the world has them on record.

One is that wherever medical science is in an advanced state the mortality rate has been enormously reduced. The second is that by having conquered the mysteries of the transmission of malaria and yellow fever, and by applying rigid sanitary measures, we have rendered many tropical and subtropical places habitable which were uninhabitable before, and have converted many pest-holes into the healthiest spots on the globe.

Let us see what the reduction of the mortality rate means. I shall not go very far back, though the figures would prove more striking and more startling. But right here in New York City we have within the last fifteen years reduced the death rate per 1,000 inhabitants from 25 to 16. In other

words, instead of twenty-five people dying every year per each 1,000 inhabitants, only sixteen die—a saving of nine per thousand—or 9,000 per million, or 36,000 per four million—the population of New York City. What an annual saving of human lives it makes throughout the country or throughout the civilized world you can calculate for yourselves. For everywhere is the same story. In Berlin, for instance, the mortality rate fell in twenty-five years from 33 to 16—a saving of more than 50 per cent.; in Munich from 41 to 18 and so forth and so forth. Our statisticians are in the habit of estimating the value of human lives in dollars—at such an age we are worth so much, at such an age so much. To me this method is rather revolting—revolting in itself, and because in my opinion many lives are worth nothing, others are worth less than nothing, in other words, have a negative value, while others are worth not four thousand dollars—which is the highest value put on a human being by the political economists—but four millions. But if you are fond of estimating the value of human lives in dollars, you can readily see how many billions we save to the world every year.

As to the places which have been converted from pest-holes into summer resorts, with summer resort mortalities, we need only point to Panama. And it is not the quacks and the detractors of scientific medicine who have done it, but the regular physicians and the sanitarians who work hand in hand with us.

CONCLUSIONS.

1. The medical profession of the present day is fully alive to its duties and its responsibilities.

2. Medicine of today is thoroughly scientific in its methods, employing the same means of experimental investigation and demonstration as are employed by the other exact sciences.

3. Medicine of today is not shackled by the chains of authority and tradition. On the contrary, every dictum of any so-called authority, any statement regarding any drug or method of treatment, which has been handed down for ages from text-book to text-book, is called into question, is carefully analyzed and dissected, and if found wanting, discarded.

Many drugs which were considered standbys by our forefathers have been thrown out from the pharmacopeia, though they may still be used by old grannies.

4. The profession of today is broad-minded and is willing to investigate any remedy or method of treatment, no matter from what source it may come; it is willing to give a trial to any suggestion if it has a grain of common sense in it; even if the suggestion comes from a quack.

5. The evils which the medical profession is guilty of are not inherent in the medical profession as such; they are the result of our social conditions, of our immoral competitive system, which makes men fight and cut each other's throats in order to make a living, and these evils are much more in evidence in other trades and professions; the legal profession for instance.

6. The medical profession not only does its duty by the public, alleviating suffering, restoring hundreds of thousands of men and women to health and active useful lives, but we are making progress from year to year, we are making new discoveries, dealing with the larger problems, increasing the average duration of life, improving sanitation, etc. In short, we deal now not only with individual, but with national problems.

7. In judging of the life of any man, of the activity of any party, of the value of any movement, of the achievements of any profession, we do not take any single acts or incidents, but we take the sum total. If we take the sum total of the activities of the medical profession, if we subtract all its shortcomings, if we admit even everything our enemies say about us, the balance of good is overwhelmingly in its favor, and it can truthfully be said to be the most beneficent, the most progressive, the most humane and the most altruistic of all professions.

And therefore to the question: What is the matter with the doctors? I must answer: There is nothing the matter with the doctors. They are all right!

Selected Article

THE INFLAMMATORY "PELVIC MASS."

BY W. W. CHIPMAN, M. D., F. R. C. S. E.

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The genital tract in the female—the vagina, uterus, and Fallopian tubes—may be considered as a cylinder, bifurcate in its upper portion, interposed between the external body surface and the peritoneal cavity. This bifid cylinder is patent throughout its length, and its upper extremities, the abdominal ostia of the tubes, are as open and unprotected as is the vulvar introitus below; throughout its course there is no obstacle, or even impediment, to any reciprocity between the external skin surface and the great mesothelial lymph space. Bacteria of all kinds, pathogenic or non-pathogenic, may track anywhere throughout its length, and through it find easy entrance to their great hunting-ground, the peritoneal cavity. Exposed so above and below, swung between unyielding bony walls, packed about with little resistant cellular tissue, and richly supplied with absorbent lymphatics, this genital cylinder undergoes always the periodic stress of menstruation, endures at times the strain of pregnancy and labor, and suffers the various traumata of child-birth or abortion. Gonorrheal or pyogenic infection attack it not uncommonly from below, and tuberculosis from above. In consequence, viewed both from its anatomical disposition, and its many physiological vicissitudes, it, of necessity almost, is frequently (too frequent it is true), the channel of ingress of acute peritoneal and systemic infection, and is itself very often the seat of local injury and disease.

It is solely with the local inflammatory disease of this genital cylinder that this paper proposes to deal; and only as this disease manifests itself in the upper portion of this cylinder, the portion above the pelvic floor—the uterus with its intra-ligamentous cellular tissue, the parametrium, and the Fallopian tubes. To these structures must be added the ovaries; for these latter organs, resistant as they are to infec-

tion usually, become involved in the inflammatory process by reason of their close apposition and lymphatic supply. We speak, then, of inflammations of the uterus, its adnexa, and the pelvic cellular tissue, for it is any or all of these structures, when involved in an inflammatory process, which come to constitute the inflammatory "pelvic mass." In particular terms the inflammatory "pelvic mass" is a metritis, a salpingo-ovaritis, or a cellulitis, single or combined, unilateral or bilateral, together with the attendant intraperitoneal adhesions and exudate. All degrees of the process occur, from the unilateral small deposit, either cellutitic or tubo-ovarian, to the complete so-called "choked pelvis," where the viscera are no longer discrete or discernible and the pelvis appears as run full of plaster-of-Paris, occupied to the uttermost by a single, firm, undifferentiated mass. No matter the gradation of this process, the lesion constitutes itself as the inflammatory "mass." It is of the ætiology of this "mass," its varieties, life history, and treatment, that I propose to speak.

Even as the poor, the inflammatory "mass" in the pelvis is always with us. It is extremely common, and a right understanding of its ætiology, its exact recognition or diagnosis, and the wise method of treatment come to constitute no small part of the special knowledge of the abdomino-pelvic surgeon. Since the opening of the Royal Victoria Hospital in 1894, 4,200 cases have been treated to a conclusion in the department of gynecology. Of this number, 832, roughly one-fifth of the total, have been instances of inflammatory disease of the uterus and its adnexa. This, I think, represents fairly the experience of every gynecologist, that about one-fifth of his practice is concerned with inflammatory lesions of these viscera.

Moreover, since there is no boundary or dividing wall between the pelvis and the abdomen, inflammatory disease in the former may, and often does, invade the latter. In such way the whole lower abdomen, and even the flanks, may become involved.

The mechanism of this extension is the formation of the reactionary zone, lymph adhesions and exudate, thrown out to oppose the infective process. All viscera are levied into the

service so as to form a retaining wall. If the initial focus be parametrial the main spread is always extraperitoneal, and the conflict is marked by the induration zone of cellular tissue. While if the lesion be visceral from the first, the struggle is chiefly waged within the peritoneum. The various viscera, first of the pelvis and then of the abdomen, become matted together. The omentum, the great peace-maker, is, as usual, quickly involved, and one after the other the successive coils of intestine. So the process extends, often at intervals quiescent, only to break forth anew; and its ultimate size is measured solely by two things—the extent and virulence of the infection and the individual's comparative resistance. So it varies from the small hen's egg mass, unilateral and entirely pelvic, to the large abdominal tumor. Though constituted in this way, when slow of formation its periphery may become so sharp and distinct, its whole contour so well defined, that it not infrequently simulates a broad ligament or ovarian cyst.

Instances of diffuse spreading peritonitis with little or no local reaction or "walling off," which occasionally arise in the pelvis, are, of course, not included here; they give rise to no local mass.

As I have said, the inflammatory "pelvic mass" is primarily either within or without the peritoneum, the site depending largely upon the nature of the infection.

Within the mass itself any stage of the inflammatory process may be discovered. Frequently it is only the initial stage of lymph exudate and œdema with round cell infiltration, as seen in the catarrhal salpingo-ovaritis, hydrosalpinx or cellulitic deposit. All stages of necrobiosis and tissue necrosis occur, and not infrequently there obtains surgical pus—the pyosalpinx, the tubo-ovarian or ovarian abscess or the extra-peritoneal focus. Concerning the presence of pus, the temperature chart is human, and is therefore not infallible.

Such then is the actual entity, the inflammatory "pelvic mass." I shall now deal very shortly with its ætiology and the clinical features of its three chief varieties, treating the subject as in the article published in the August number of the *Journal of Obstetrics and Gynecology of the British Empire*.

Any systematic knowledge of inflammatory lesions in the pelvis goes back only some thirty years. Noeggerath's paper was published in 1872, but it was not until 1879 that Neisser isolated the gonococcus. Hegar's monograph on genital tuberculosis appeared in 1886, and though Döderlein published his classical paper in 1892, any exact information in regard to pyogenic infection of the pelvis practically begins with the present century. Only during the past dozen years have the flora of the healthy genital tract been described and classified. Numerous and exhaustive studies have recently been made, and the aggregate result is as follows: Pathogenic organisms are frequently present in the lower segment of the genital tract. From the healthy vagina of pregnant women the streptococcus pyogenes, the staphylococcus, numerous diplococci, including the gonococcus and the bacillus coli communis, have been repeatedly recovered. While in every sense objectionable aliens, these organisms do not of necessity occasion disease, for the resistance of the healthy mucosa is great. They are, of course, in the parturient canal specially dangerous. When pathogenic they produce, each in its own way, the general and localized infections with which we are unfortunately so familiar. Such local infection is invariably the cause of the "pelvic mass," for from the "mass" itself these same organisms can very often be recovered and cultivated. Not always so, it is true, as some, particularly the gonococcus, perish rapidly in their own toxins. The rule of their presence obtains, and their several varieties, their different behavior, the methods of infection, the choice of the tissues and the resulting lesions—in a word, their pathogenic life history has been, and still is, the subject of study. In this connection should be remembered always the researches of Menge, Kronig, and Stoltz, and in our own country the work of Andrews, Hyde, Williams, MacDonald, and Little.

Much remains to be done, but from our present day knowledge the following practical points may be gathered: The organisms that are chiefly pathogenic in the female genital tract are three, or they fall into three groups, Neisser's gonococcus, the streptococcus in its several varieties, and the tubercle bacillus. The staphylococcus aureus, the bacillus coli,

and the pneumococcus, which are comparatively seldom found, and then usually in mixed infections, and the various saprophytes, which are relatively unimportant, may be for the time disregarded. I also shall not speak of the singular infections from bowel or blood-stream frequently found in senile conditions. There remain the three outstanding infections—the gonococcal, the streptococcal, and the tuberculous. The first two invade the genitalia from below, and constitute the so-called ascending infection; while the last attacks from above, its primary pelvic focus being always the Fallopian tube, and is known as the descending infection. The unbroken genital mucosa of the healthy adult is attacked only by the gonococcus and the tubercle bacillus. A vaginitis in a woman otherwise healthy means always a gonorrhea. Streptococcal infection occurs only in a canal damaged by child-birth or abortion, or wounded by some trauma, either accidental or deliberate.

The host once invaded, their pathogenic life history begins. Each lives it in its own way. The gonococci prefer always the mucous membrane, spread by contiguity, do not penetrate very deeply, and so do not specially implicate the blood-vessels and lymphatics. From the vagina they enter the cervix, traverse the uterus, and finally reach the Fallopian tubes, where they flourish. A salpingitis results which almost invariably involves the ovary, the catarrhal salpingo-ovaritis of gonorrheal origin, which is as a millstone hung about the neck. So it may persist more or less quiescent for years, a perpetual torment. Pus at any time may form, often a mixed infection, the pyosalpinx with indrawn fimbriae, or the tubo-ovarian abscess. The lesion remains generally intraperitoneal and tends to become bilateral. With time the virulence of the organism becomes attenuated, and in purulent exudate it rapidly perishes.

The streptococci from their point of entrance neglect the mucosa and penetrate deeply from the first. Rapidly they implicate lymphatics and blood-vessels, and are swept therein. Their choice is always the loose vascular connective-tissue, and they find this in abundance in the parametrium. They multiply therein and remain for the greater part extraperitoneal.

the viscera being only secondarily involved, save the ovary which lies in the direct lymph channel. Pus may, or may not, form, and the inflammatory "mass" is commonly unilateral, and may remain pelvic or extend to the groin or flank. The virulence of the organisms is extreme, though they lie for years quiescent.

The tubercle bacillus from some previous focus, frequently a caseating gland, drops in detritus to the pouch of Douglas. By the lymph current it is swept into the Fallopian tube. Tubercle formation, a chronic salpingitis or a pyosalpinx with everted fimbriae, even of enormous size, may develop. The condition is usually bilateral, is almost entirely intraperitoneal, and the ovary frequently escapes. Though its life is long its virulence is not great. (I have purposely not spoken of the blood infection.)

Such, then, is the life history of these several organisms, and in their respective ways they so give rise to the inflammatory "pelvic mass." It is with this mass as a clinical entity that we now have to deal. Very fortunately for the clinician, these three infections often persist as they begin, separate and distinct, and, behaving in a way peculiar to each, remain recognizable from beginning to end. All, in common, occasion the "inflammatory mass," but the "mass" of the one can clinically be distinguished from that of the other. Instances of cross-infection and hybrid growth, of course, occur; but there are the exception and not the rule. So in actual practice there emerge the three clinical varieties—the gonorrheal, the streptococcal, and the tuberculous, to name them in the order of their frequency and importance. I shall draw very broadly their distinguishing clinical characteristics:

1. The gonorrheal variety of the inflammatory "pelvic mass." A history of purulent leucorrhea and previous urinary disturbance is sometimes of value. Pus in the urethra or vulvo-vaginal glands, or evidence of old inflammation, for example, a skenitis or the *maculae gonorrhoeicae* about the Bartholinian ducts, are important; a Bartholinian cyst is pathognomonic, while a granular vaginitis or a catarrhal cervix may each occur. Such evidences may persist for years in untreated cases, and most cases are untreated, and their

tale is unmistakable, a gonorrheal infection has passed that way. Noeggerath's latent gonorrhea leaves, of course, no such serpent's trail. The resulting "mass" is a salpingo-ovaritis, and may be of any size. It is frequently pelvic and not large; very often it is bilateral with the uterus recognizable between. Whether single or double these "masses" are commonly elastic, have a definite, rounded contour and a boundary sulcus more or less distinct, which marks the lesion as visceral and intraperitoneal. To the bimanual examination, and this is the important point, the sense is that of a rounded or pyriform body with no complete identification with the uterus or pelvis wall. The "masses" occupy the pouch of Douglas, and the uterus may not be greatly displaced. All degrees obtain; sometimes the landmarks are entirely obliterated, but the above is a common finding. The diagnosis is based upon the evidence of gonorrhea below and the physical characters of the "pelvic mass."

2 The streptococcal variety of the inflammatory "pelvic mass." The history is valuable, and begins with child-birth or abortion, or some operative interference sometimes self-imposed. If acute, the fever is high and the illness extreme. Pain is marked often down one leg, and that knee is flexed. Examination may, or may not, show an old gonorrhea; if so, there is a mixed infection. The vagina is hot and dry, and the "pelvic mass" is usually unilateral, firm, and discoid in shape with no limiting sulcus. Within the pelvis it gives the sense of set plaster-of-Paris firmly fixed to the pelvic wall. The uterus is often greatly displaced and the rectum compressed from before backward. The "mass" is of any size, and may project into the pelvis below or extend upward to the groin or flank. The uterine appendages may be indistinguishable, but frequently are swollen and sensitive. The diagnosis is based upon the history, and the recognition of the "mass" as extraperitoneal.

3. The tuberculous variety of the inflammatory "pelvic mass." Frequently the history is only of failing health and some menstrual depravity; this is the lesion of the young and unmarried. There is no evidence of gonorrhea, though there may be cervical catarrh. The mass is cornucopia-shaped, and

frequently bilateral, elastic, rounded, and with definite contour. Pea-like nodosities may be found in the isthmian portion of the tube. The uterus is recognizable and not greatly displaced. The ovaries may be healthy and distinct. The diagnosis rests upon the history, absence of the evidence of gonorrhea, and the character of the elastic, fusiform, intraperitoneal "pelvic mass."

In all these cases the leucocyte count and cultures taken from the "mass" may be of distinct service; where tuberculosis is suspected the Von Pirquet reaction is often valuable.

The relative frequency of these different infections is fairly to be judged from my own practice. From 164 operative cases, 113 were gonorrheal; nineteen were tuberculous; seventeen were streptococcal (twelve puerperal and five non-puerperal), and fifteen were of mixed infection. Here, as elsewhere, gonorrhea far outnumbers all the rest put together.

Palliative Treatment: During the past eight years I have treated 344 such cases. Of these 180, or more than half, escaped operation; palliative and hygienic treatment gave fair results. Of this palliative treatment rest is the great factor, and rest in bed; and youth and individual resistance determine the result. The nature of the infection or the size of the "mass" is here no contra-indication, for nature may work pelvic miracles. Witness the three following cases:

1. Girl of eighteen, patient of Dr. Evans, gonorrheal "choked pelvis," with the crest of the "mass" nearly to the umbilicus. Palliative treatment gave, in a year, a pelvis normal to palpitation. The girl subsequently married, and was safely delivered of a child.

2. A woman of twenty-eight, tuberculous salpingitis. Four years ago both tubes were swollen to the size of the index finger, and were nodular and sensitive. Steady improvement followed rest out-of-doors. For a year she has resumed her ordinary life, her menstrual habit has been restored, and the tubes are now normal in size, though slightly fibrous and nodular.

3. Woman of thirty-five, with a large, left-sided, extra-peritoneal "mass" in the pelvis reaching to the iliac crest. The whole left half of the pelvis was occupied, and the uterus was

pushed far to the right. The patient was bedridden, complained of sciatic pains, and the left leg was flexed and wasted. She gave the history of puerperal infection the year before; this was probably streptococcal, as the illness was acute for three months, though there was no abscess formation. Under palliative treatment which included hot air baths, massage, and electricity, the condition rapidly improved. A year later all functions were restored, and the patient was active, and about the house, though there was still a small "mass" in the pelvis.

Operative Treatment: Here I have followed always the technique established by Dr. Gardner, the chief of the department. In eight years I have operated upon 164 cases of the inflammatory "pelvic mass" with three deaths—a mortality of 1.8 per cent. In all these cases the recognition of the nature of the infection and the method and time of interference are all-important. Upon these things everything depends. If the infection be streptococcal it is never safe to open the abdomen, as the organisms are persistently virulent. Moreover, the main "mass" here is always extraperitoneal, and consequently irremovable, and even if the diseased uterus or its appendages be extirpated the chief lesion is still beyond surgical help. A celiotomy in such a case is absolutely futile and extremely dangerous. It should never be performed, as a streptococcal peritonitis is almost inevitable. Yet such an operation even as other surgical blunders, is not so rare. I have performed it twice myself; and the result was, in one, a death, and in the other a protracted and stormy convalescence. Crossen, of St. Louis, tabulates a series of twenty-three such cases, where, after a celiotomy, five died; a mortality of nearly 22 per cent. In all these cases, then, the abdomen should remain unopened; surgical interference should only seek to establish drainage, to evacuate abscess cavities as they form, and the methods should be always extraperitoneal, either a colpotomy below or above the groin or a flank incision. Mixed infections either gonorrheal or tuberculous, if they occur here, must wait. Sixteen such cases I have treated in this way without a death. One, a puerperal case, lay in hospital six months and required four successive incisions; while

another, infected from the careless use of a sponge-tent, became convalescent only after three operations for drainage. The great difficulty is always to recognize the condition. Yet in most instances its personality is plain, and to be forewarned of it is to make a few mistakes.

In the gonorrheal "pelvic mass" all surgical interference is contraindicated during the acute stage. A coliotomy at this time incurs heavy additional risk, and in waiting there is no harm. The exacerbation sooner or later burns itself out as the organisms perish. Posterior colpotomy with complete tunnelling of the "pelvic mass" is a wise, curative, and conservative measure, and should, I think, be even more frequently undertaken. Extirpation of the diseased organs should only be made as a last resource.

With the tuberculous "pelvic mass" the converse obtains. If the lesion is progressive the sooner it is removed the better. Posterior colpotomy has here no place. Extirpation is the only cure.—Canadian Med. Assoc. Journ.

Recent Progress in Medical Science

INNOCENT GALL-STONES.

W. J. Mayo, Rochester, Minn. (Journal A. M. A., April 8). says that the old idea of gall-stones without symptoms must now be acknowledged to be incorrect. We have become better informed by operative experience with the disease. He questions the high percentage of gall-stones in the general population as estimated by some good authorities and thinks that it is more probable that not over 0.5 per cent. would be a fair estimate of the frequency of gall-stones in individuals of all ages, although evidence at hand shows that from 5 to 8 per cent. of women and from 2 to 4 per cent. of men have gall-stones after the age of 50. The symptoms may not be recognized as regards their source though appreciable to the individual and to the observer. He has been impressed with this fact on finding undiagnosed gall-stones in operating on women for pelvic trouble. After the recovery of the patient he has

nearly always been able to elicit a satisfactory history. The hypothesis of Lartigau as to the bacterial causation of gall-stones is probably correct, though it is difficult to demonstrate it experimentally. Their place of formation is in the gall-bladder, and Mayo describes and discusses the anatomy and functions of this viscus. It cannot be considered merely a storage-house for bile, he says, and it is most reasonable to suppose that its function is to relieve temporarily the pressure on the common and hepatic ducts and also, if necessary, the ducts of the pancreas. Another function is the production of mucus which, mixed with the bile, protects in a measure the pancreas from injury if the mixture is forced into the pancreatic duct. That the gall-bladder is important as a means of protection, especially to the pancreas, is evident, and this is an argument against its unnecessary removal. The greater frequency of gall-stone disease in women than in men must depend on some sexual difference; 90 per cent. of the cases in women are in those who have borne children, and 90 per cent. of these identify the beginning of the symptoms with some particular pregnancy. Every patient with chronic gastric distress should be questioned intelligently to obtain any former history of gall-stone colic, since this may have escaped the patient's attention. Gall-stone disease sometimes causes serious circulatory disturbances, such as endocarditis, which, though rare, is of a specific type and in its origin is coincident with the gall-stone attack. Subsequent attacks aggravate the heart action. While stones are the most common cause of cholecystitis, this is not always the case, but the patient still requires operative relief. It is usually in these cases accompanied by habitual tenderness in the region of the gall-bladder and colic is not so prominent. Complications were found in more than two-thirds of the patients operated on at Rochester. Stones were found in the common duct in 531 cases with an operative mortality of 6.5 per cent., while serious complications involving the liver, duodenum, transverse colon, etc., were the rule. Carcinoma was found in eighty-five cases (2.25 per cent.). In a number of cases slightly advanced cases of carcinoma were accidentally encountered before they had advanced sufficiently for diagnosis in removing thick-walled

functionless gall-bladders, and five of these patients are still alive and well from two to six years after operation. Gall-stones are foreign bodies and Mayo asks why delay operation until complications ensue. In their experience at Rochester simple operation for uncomplicated gall-stones has had a mortality of less than 0.5 per cent., and this was due more to the condition of the patient than to the operation. While temporary palliation may be obtained with non-operative measures, the patient can only be thoroughly cured through surgery.

ENTEROPTOSIS.

A. J. Ochsner, Chicago (Journal A. M. A., November 26), says that a large number of children under the age of 12 have come under his care for hernia due to excessive intra-abdominal pressure, in whom there was marked enteroptosis with diastasis of the recti and pendulous abdomen and in which relief of the abdomen pressure not only cure the hernia without operation, but also greatly relieved and in many cases cured the enteroptosis. Besides overcoming constipation by diet, etc., he had them go to bed at 6 and sleep with the head lowered so that they were in a sort of Trendelenburg position, the intestines thus gravitating toward the diaphragm and enabling the supporting structures to recover from the strain to which they had been exposed. The cases of enteroptosis which cannot be thus disposed of by the pediatricist and those which the gynecologist cannot manage leave a remainder which the surgeon must regard critically from several standpoints. In a majority of cases the enteroptosis does not affect the disease from which the patient is suffering and in a majority of those in which it does, surgical interference either fails to relieve or creates other conditions worse than those from which relief was sought. Joseph Blake has laid down the following as indications for operation: First, the patient's suffering must be due to enteroptosis. Second, it must be clear that relief cannot be obtained without surgical interference. Third, it must be reasonably certain that surgery will give relief. It seems that enteroptosis is the cause of trouble only when it causes obstruction, which may be due to more or less marked

angulation or even torsion. Ochsner has been able to confirm the statement of Pavlick that 75 per cent. of the foreign-born working women, multipara, have right-sided nephroptosis, but he has also found that this condition causes no trouble unless it causes obstruction of the ureter and over-distention of the pelvis. A stomach of good motility should never be operated on, and enteroptosis of the small intestines is still less important unless complicated with adhesions. The splenic and hepatic flexures are the only parts of the colon that are not likely to be displaced. The other portions of the colon may be found at any level of the abdomen. When the malposition is sufficient to cause obstruction affecting the patient's health, Lane's operation for removal of the offending part is undoubtedly the best treatment, but in this country it is rarely indicated. In the greatly exaggerated conditions of Hirschsprung's disease excision is, of course, invariably indicated, preferably by the simple method described by Judd. Ochsner gives the methods of relieving ptosis of the different viscera in brief detail, but insists on the importance of dietetic and hygienic measures in the after-treatment to eliminate, so far as possible, abnormal intra-abdominal pressure, especially from gaseous distention and constipation.

THE TREATMENT OF ACUTE MANIA.

Charles P. Noble, Philadelphia, Pa., (Med. Rec., March 11, 1911,) advocates a new treatment of acute mania. Its object is to quiet the patient by morphine, and nitrous oxide gas combined with oxygen used for a long period of time. The colon is filled with salt solution, and hypodermoclysis is used to remove the toxins from the system. Drowsiness is kept up by hypnotics. There is a vicious circle in such cases, overwork, increased metabolism, auto-intoxication, irritability, exhaustion of the will, increased secretion of the pituitary body and of the thyroid, aberrant thought, and progressively increased intoxication. This is broken up by rest, lack of nerve force to the pituitary gland, and elimination. If kept up for several days the kidneys will get rid of the toxins and the patient will become rational.

PYLOROSPASM.

Max Einhorn, New York (Medical Record, January 21, 1911), considers pylorospasm pure and simple of the chronic variety, not secondary to other stomach diseases. In this condition there is severe pain in the epigastric region, radiating to the right. Vomiting may be present. A spastic contraction simulates a benign obstruction of the pylorus. The differential diagnosis is not easy. It is aided by the use of the duodenal bucket and examination of the thread. If the thread is yellow for only a short distance this indicates that the bucket has reached the duodenum, which it could not do in obstruction from a growth. Treatment must be directed toward eliminating or curing any primary affection. In idiopathic cases dilatation must be tried. The author describes a new dilator arranged by him, consisting of a rubber bulb covered with silk gauze which is passed as the duodenal pump is introduced. The bulb is attached to a long rubber tube with a metal endpiece. After introduction the bulb is injected with air and gentle efforts at drawing it out are made. When it has been withdrawn the amount of contained air is noted in the syringe, and this amount is recorded for use in future trials. The author gives histories of two cases treated with benefit by this method. The spastic form of pyloric obstruction may be cured without surgical measures.

THE SITUATION AS REGARDS SALVARSAN (606).

W. A. Pusey, Chicago (Journal A. M. A., January 14), states that indications at present are very strong that we are on the verge of a period of indiscriminate and reckless use of Ehrlich's new remedy 606, or salvarsan, as it is known commercially, that will result in disappointment in that valuable remedy and—what is more important—in damage to many syphilitic patients, chiefly, let us hope, from neglect of established measures of treatment. To cure syphilis was Ehrlich's aim. The new drug was to be a *therapia sterilisans magna*—to destroy by one massive dose of a “parasitotropic” remedy all of the infecting organisms in a syphilitic patient. In the

light of even the brief present experience with 606, it may be said with confidence that the agent has failed in this magnificent aim. It is not a *therapia sterilisans magna*; it does not destroy the infection; and it does not rid the syphilitic patient of his syphilis. The belief that salvarsan cures syphilis in man depends on the following considerations: 1. The destruction of the spirochetes. 2. The reversal of the Wassermann reaction. 3. The removal of the clinical manifestations of syphilis. The evidence is becoming increasingly strong that salvarsan does not permanently and completely cause any of these results. It has a striking effect on spirochetes, but the sudden disappearance of spirochetes from lesions is no evidence of an overwhelming attack on the disease. The drug may cause the disappearance of spirochetes from a chancre within twenty-four hours and greatly reduce the number, or cause their disappearance from deeper lesions—but mercury may do the same thing. If one were to take any warning from the accumulated experience of generations in syphilis, it would lead him to expect that the apparent disappearance of the spirochetes was but a lull in the invasion and that they would return. And that is exactly what is coming to light. Disappearing spirochetes are returning, it may be, even at the site of the original lesion, where their disappearance has been regarded as of such significant importance. The most important evidence as to the value of 606 is the effect on the clinical manifestations of syphilis; and here experience indicates great variability. These variations extend from cases which are “refractory” to the drug, and show no effect, to cases in which strikingly good results are seen. As a rule, there is in active early syphilis—the stage at which most would be expected from a remedy that cured—distinct and positive improvement. Sometimes the symptoms entirely disappear—as happens from mercury or even without treatment—but that, even in these cases, no cure is obtained, is shown by the definite tendency to recurrence that the later literature is revealing. Of the dangers of salvarsan we are least able to speak at present. We do not fully know them. The evidence is large that immediate risk of serious accidents from the remedy are small. But enough is known to show that dangers

exist. There is good ground for the belief that a larger proportion of serious accidents are occurring than would be estimated from the literature. There is great diversity of opinion about technic of efficient administration. Injections in neutral emulsion, in alkaline solution, or mixed with oil, into the subcutaneous tissue, into the muscles, or into the veins, or combinations of these various methods of administration are succeeding each other. The hope of a *therapia serilisans magan*—the complete destruction of the spirochetes of syphilis in an infected patient—is practically abandoned, and two or three or more injections are being used. And, finally, the recommendation of the use of salvarsan and then mercury, as heretofore, is the best evidence that the new agent is not equal to its proposed mission. It cannot be emphasized too strongly that the situation with 606 is still experimental. Our present experience shows that it does not cure syphilis and that we are not justified in holding out to patients any hope of cure by it, but that it is likely to prove a useful remedy in syphilis, with mercury, however, as before, our chief dependence.

PICRIC ACID AND BURNS.

A. Ehrenfried, Boston (Journal A. M. A., February 11), after a brief historical review of the uses of picric acid in surgery and a statement of its chemical and antiseptic qualities, so far as stated in the literature, reports experiments as regards the latter. Fresh virulent culture of staphylococcus aureus and bacillus pyocyaneus were used, the former being selected as a resistant, and the latter as a milder pus-producing agent. The rod method was employed, the bacilli having been dried in air, and the cultures were passed through guinea-pigs to increase their virulence. The results are shown in tabulated form and indicate that a saturated aqueous solution of picric acid (1.2 per cent.) kills bacteria from a fresh virulent culture of B. pyocyaneus which have been exposed to the air for one hour, in half a minute, and bacteria from a fresh virulent culture of S. pyogenes aureus in about two

minutes, as compared with 1 per cent. solutions of phenol under the same conditions, which takes twenty minutes and ninety or a hundred minutes respectively, to do the same. Pieric acid solution therefore is fifty times as strong as the phenol solution. Within five years he has employed the phenol in practice on about three hundred patients, practically using throughout a saturated aqueous solution of the C. P. crystallized pieric acid. Stronger solutions in alcohol and water sometimes recommended are momentarily very painful on large raw surfaces and it is of course more liable to cause symptoms of absorption. The surgical use in the form of ointment is illogical and also dangerous. By his method and strength of solution he has never seen sufficient absorption to show in coloration of skin or urine. He describes the method of preparing sterile saturated solutions which should be applied on gauze. In case of a superficial burn of hand or foot, the part may be completely immersed in the solution for some minutes before applying the gauze dressing. In fresh burns of the first and second degree, or superficial lacerated wounds, no preparation is necessary if the parts are tolerably clean, but if the skin is dirty it should be gently washed clean; blebs should be opened antiseptically at their dependant points, and the contents expressed. One dressing usually suffices in these cases unless the lesion is extensive. In burns of mixed degree the same principles are to be followed, but more care should be exercised to render the lesion aseptic. Extensive third degree burns should not be treated by pieric acid. He recommends that saturated aqueous solution as superior to any other method in first and second degree burns, as being cheap and simple in application and including rapid regeneration of the skin without pain or irritation. Deeper lesions may be made to heal by the formation of a smooth, level non-secreting, granulating surface over which dermatization will proceed rapidly, or which will serve as an ideal base for the reception of Reverdin or Thiersch grafts. The mild toxic symptoms which have been occasionally reported as occurring will never be seen if reasonable care is exercised.

Book Reviews

STATE BOARD QUESTIONS AND ANSWERS; By R Max Goepp, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second edition revised. Octavo volume of 715 pages. W. B. Saunders Company, Philadelphia and London, 1911. Cloth, \$4.00 net; half morocco, \$5.50.

The material of this volume has been selected from the questions asked in recent years at final examinations in medical schools, and from those asked by the various State Boards. Preference is given to the questions asked in the larger and more representative States. The author has endeavored to retain herein the original wording of all questions and to condense the answers as far as possible. It includes questions and answers on physics, chemistry, anatomy, physiology, pathology, bacteriology, materia medica and therapeutics, practice of medicine, surgery, obstetrics, gynecology and hygiene.

It provides a great help to those preparing themselves for State Board examinations, or examinations for hospital appointments.

A TREATISE ON DIAGNOSTIC METHODS OF EXAMINATION; second edition revised; By Prof. Dr. Herman Sahli, Director of the Medical Clinic, University of Bern. Edited, with additions, by Nathaniel Bowditch Potter, M. D., Assistant Professor of Clinical Medicine, College of Physicians and Surgeons, New York. Octavo of 1,229 pages, containing 472 illustrations. W. B. Saunders Company, Philadelphia and London, 1911. Cloth, \$6.50 net; half morocco, \$8.00 net.

In this work the author has aimed to pay equal attention to all departments of internal medicine. Many changes have been made. The chapter on icterus has been rewritten, laying emphasis on Geraudel's investigations, which have clarified our views upon the pathogenesis of the condition. The section on edema, has been revised rejecting the explanation based solely upon the pressure relations for the more recent theory which is in accord with Meltzer's views. An entirely new section has been introduced upon the determination of the

electric resistance of the skin, of diagnostic value in exophthalmic goitre and theoretic interest in scleroderma. The chapter on hemodynamics has been completely rewritten and that on the blood thoroughly revised; description of the newer procedures and apparatus minutely and clearly detailed. The more recent investigations on trypanosomes, spirochetæ, piroplasmata and warm embryos are discussed and explained by illustrations.

By the many changes that have been made by the revising and rewriting of its chapter and the addition of entirely new ones this work has been brought up to date in every particular. The addition of new material has enlarged the book by 300 pages, increased the cuts from 291 to 389, and the number of plates from five to seven. This work deserves strongest endorsement.

LECTURES ON SURGICAL NURSING; By E. Stanmore Bishop, F. R. C. S., Eng., Honorary Surgeon Ancoats Hospital, and Gynecological Surgeon Jewish Memorial Hospital, Manchester. Illustrated. Cloth, pages 142. William Wood & Company, New York, 1910.

As these lectures are intended to cover merely the requirements in surgical nursing, no consideration is given to general nursing; subjects as feeding, bed-making, are not treated of at all and temperature taking but briefly and incidentally mentioned. It contains chapters on methods of sterilization, dressing of wounds, preparation of patient before operation, duties of nurses in the theatre, etc.

DIAGNOSTIC AND THERAPEUTIC TECHNIC; By Albet S. Moore, M. D., Adjunct Professor of Surgery, New York Polyclinic. Octavo of 775 pages with 815 original line drawings. W. B. Saunders Company, Philadelphia and London, 1911. Cloth, \$5.00 net.

The first portion of this book is given to description of general diagnostic and therapeutic methods, as the administration of general and local anaesthesia, sphygmomanometry, transfusion of blood, infusion of physiological salt solution, hypodermic and intramuscular injection of drugs, Bier's

hyperemic treatment, collection and preservation of pathological material, exploratory punctures, and aspirations.

The second part of the book describes the measures employed in the diagnosis and treatment of diseases affecting special regions and organs of the body.

The work carefully details the technique of those minor procedures which, although essential to every practitioner, are of necessity omitted from most text-books to maintain them within reasonable limits. All the important steps in technique are illustrated by original line drawings at great expense.

COMPEND OF GYNECOLOGY; By William Hughes Wells, M. D., Associate in Obstetrics in the Jefferson Medical College; Assistant Obstetrician in the Jefferson Medical College Hospital; Fellow of the College of Physicians of Philadelphia, etc. Fourth edition, revised and enlarged with 153 illustrations. P. Blackiston's Son & Co., Philadelphia. Price, cloth, \$1.00 net.

This compend of gynecology has been carefully revised since the publication of the third edition. While it cannot replace the larger works on the diseases of women, it concisely gives the student the essentials of gynecology. It condenses the methods used by the principal operators and best instructors of the subject throughout the country. This new edition has been brought down to the requirements of the day.

PRINCIPLES OF PUBLIC HEALTH; By Thomas D. Tuttle, B. S., M. D., Secretary and Executive Officer of the State Board of Health of Montana. Cloth, 186 pages; illustrations, 88. By mail, 60 cents. World Book Company, Yonkers-on-Hudson, N. Y.

This is a simple text-book on hygiene presenting the fundamental principles. It sets forth the general rules of life, by the observance of which every adult and every child preserves not only his own individual health but conserves that of the community. No attempt is made to deal with all the diseases that may be classed as preventible; as the work is intended for use in the public schools, only those diseases are mentioned as it seems fitting to present to school children.

INTERNATIONAL CLINICS. Volume I. Twenty-first series, 1911.

A quarterly of illustrated clinical lectures and original articles by leading members of the profession. Edited by Henry W. Cattell, A. M., M. D., Philadelphia, U. S. A. J. B. Lippincott Company, Philadelphia and London. Price, \$2.00.

As reviews of the volumes of International Clinics have appeared frequently and at short intervals in this journal, we believe our readers are familiar with the character of these books. In this last volume appears, A Further Contribution to the Treatment of Syphilis with Ehrlich's Dioxyamido-aisenobenzol, by Sanitatrath W. Weechsebaum; The Development of the Sphygmomanometer and the Method of its Use, by Francis A. Faught, M. D.; Some Recent Clinical Investigations of Poliomyelitis, by Charles K. Mills, M. D.; Syphilis of the Circulatory System, by John H. Blackburn, M. D.; The Occurrence of Icterus in Tuberculosis, by Aldred Scott Warthin, M. D.; Recent Advances in Our Knowledge of Nutrition, by Winfield S. Hall, M. D., and The Cellular Basis of the Determination of Sex, by Thomas H. Montgomery, Jr. In Progress of Medicine During 1910, Dr. A. A. Stephens contributed the article on Treatment; Dr. John Musser that on Medicine and Dr. Joseph C. Bloodgood the one on Surgery.

PLASTER OF PARIS AND HOW TO USE IT; By Martin W. Ware, M. D., N. Y., Adjunct Attending Surgeon, Mount Sinai Hospital; Surgeon to the Good Samaritan Dispensary; Instructor of Surgery in the New York Post Graduate School. Second edition revised and enlarged. Price, cloth, square form, \$1.25; De Luxe leather, \$2.50. Surgery Publishing Co., New York.

The exhaustion of the first edition and the persistent demand for this helpful book were the incentives for this second edition, which has been completely rewritten and enlarged and thus its scope of usefulness has been greatly extended. Complete new drawings and marginal side notes in red embellish the book and ninety illustrations are used to more clearly put up to the eye of the reader the intent of its subject matter. Such information as History, Materials, Manufacture of Band-

ages, Storage, Bandages of Commerce, Calot Plaster Bandages. The Immediate Preparation of Bandages, Application and Precaution, Removal of Bandages, etc., are all given under the contents of The Plaster of Paris Bandages. Then follows such chapters as Application of the Plaster of Paris Bandages to Individual Fracture, Fracture of the Upper Extremity, Fractures of the Lower Extremity, Moulded Plaster of Paris Splints, Plaster of Paris in Orthopedic Surgery, etc., and all presented in such a comprehensive manner as to make this book of particular service to every doctor.

A MANUAL OF DISSECTION AND PRACTICAL ANATOMY OF HEAD AND NECK FOR STUDENTS, SURGEONS AND SPECIALISTS; By Hubertus J. H. Hoeve, M. D., Professor of Anatomy in the Medical and Dental Colleges of Drake University. Illustrated with 51 original half-tone engravings. Cloth. Pages 626. De Moines, 1910.

The author has recognized the need of a Manual of Anatomy, containing the entire macroscopic anatomy, and so arranged that the student with a minimum amount of reading during dissecting periods may be enabled to dissect methodically all the structures in their order. He has therefore prepared this volume on the Head and Neck in natural outline form to facilitate study for the dissecting room and also for surgical purposes.

The work shows clearly the earmarks of originality even to the cuts, drawn and photographed from original specimens.

An hypertrophied prostrate in which nodules can be felt per rectum is carcinomatous.—*American Journal of Surgery.*

If healing does not occur under the customary treatment in ulcers of the leg, even when of a distinct varicose type, it is well to consider the possibility of a syphilitic element, although there may be nothing in the history to point to its existence. A course of specific medication may effect a material improvement in cases which have resisted all kinds of local treatment.—*Internat. Jour. of Surg.*

Miscellany

PRACTICAL GLEANINGS.

A small swelling in the parotid region may be an inflamed lymph-node. A single focus of tuberculous lymphadenitis is sometimes to be found here.

In cases of whitlow in which the inflammatory process is superficial and confined to the cuticle, it is advisable to refrain from deep incision, in order to avoid extension of the infection to the subjacent parts. The small amount of pus that forms may be evacuated by shaving off the cuticle, keeping the blade of the knife flat on the surface, as advised by G. B. M. White.

The use of the sound in wounds of the skull should be strictly avoided; first, because it does not afford accurate information, and secondly, because it increases the risk of infection.

The passage of a sound or catheter into a tortuous or narrowed urethra is facilitated by injecting the urethra full of sterilized olive oil.

Marked atheromatous changes in the arteries contraindicate amputations less on account of danger of hemorrhage than because of the risk of sloughing of the flaps owing to lowered vitality. Therefore, a method that will give the best blood supply should be selected.

In the use of elastic bandages and stockings for varicose veins the patients should be directed to remove them on retiring, and reapply them in the morning before leaving the bed.

Phlegmonous processes in the neck, especially suppuration, in the deeper planes, cannot be too promptly evacuated,—they are often followed by mediastinal or pulmonary infection.

NEWS ITEMS.

The Louisville Hospital Commission and the Board of Tuberculosis Hospital may co-operate in improving Waverly Sanitarium. Any financial aid that the commission may render will be merely for the purpose of providing a place for the care of City Hospital tubercular patients during the erection of the new hospital. After it had been ruled that the hospital commission had no authority to appropriate for improvements at Waverly, the City Attorney returned a supplementary opinion that while it might not appropriate for the sanitarium as a permanent institution, it might appropriate to fit it up as a place for the temporary treatment of the Louisville City Hospital patients during the erection of the new hospital.

The Paducah Medical and Surgical Society at its meeting March 6, elected Dr. Oliver R. Kidd, President; Dr. Henry G. Reynolds, Vice President, and Dr. James T. Reddick, Secretary and Treasurer.

Dr. Frank Fort, of Louisville, attended the meeting of the Association of Illinois Central Railway Surgeons held at Memphis.

Dr. Joseph M. Mathews, of Louisville, has returned after a trip around the world.

Dr. David G. Norton, of Louisville, is in Vienna.

Dr. J. Thomas Wallingford has been re-elected Health Officer of Covington, and Dr. L. E. Brinker Secretary of the Board of Health.

Dr. Clint Kelly, Jr., of Louisville, is attending the clinic of Prof. Hajek in Vienna.

Dr. J. A. Freeman, of Crestwood, visited in Louisville.

Dr. A. O. Sisk, of Earlington, spent several days in Nashville, Tenn.

Dr. B. W. Coffman, of Owensboro, was in Central City for a brief stay.

Dr. D. M. Berry, of Maceo, visited in Owensboro.

Dr. J. F. Taylor, of Louisville, was the guest of Dr. R. B. Pryor in Crestwood.

Dr. Charles Vance, of Lexington, has returned from a trip to Florida.

Dr. O. P. Goodwin, of Pleasureville, visited in Bagdad.

Dr. G. A. Hendon, of Louisville, has returned from Jackson, Miss., where he attended the State Medical Society.

Dr. Virgil E. Simpson, of Louisville, who has been confined to his home by illness, is again able to resume his professional duties.

Dr. John G. Cecil, of Louisville, has returned after a two weeks' stay at West Baden Springs.

Dr. Chas. W. Hibbitt, of Louisville, is visiting his mother and sister in Mississippi.

Dr. Leon L. Solomon, of Louisville, has gone south to New Orleans and Mobile for a month's stay.

Dr. George D. Kelly, of Lexington, has returned after spending three weeks' in Louisville.

Dr. Edgar O. Witherspoon, of Louisville, who has been visiting in Shelbyville, has returned.

Dr. M. L. Cooper, of Prestonia, visited Dr. R. L. Ireland in Louisville.

Dr. D. M. Sloan, of Union county, visited in Taylorsville.

Dr. J. D. Williams, of Catlettsburg, spent a week in Cincinnati.

Dr. W. G. White has returned to his home in Richmond after a short business trip in Louisville.

Dr. H. F. Litchfield has located in Stephensport, Ky., from Houston, Texas.

Dr. Charles M. Garth, of Louisville, has returned from a two months' trip to Florida and the Bermudas.

Dr. J. F. Rees, of Owenton, is at French Lick Springs.

Dr. George Eager, of Louisville, has returned from a week's stay in Birmingham.

Dr. Bernard Asman has disposed of his sanatorium interests in Hot Springs, Ark., and has resumed his practice in Louisville.

The Louisville Society of Medicine at its last meeting elected Dr. C. B. Spalding, President, and Dr. S. Scott Prather, Vice President. Dr. R. T. Yoe and Dr. W. O. Green were re-elected Treasurer and Secretary respectively. The society will hereafter hold its regular meetings at the Tavern Club instead of at the Galt House.

The Jewish Hospital Association, of Louisville, has received a gift of a valuable piece of property adjoining the present hospital on Kentucky street. The plot was given by Mr. Bernard Bernheim, of Louisville.

By resolution passed, the Jefferson County Medical Society will co-operate with the local commercial bodies in tendering the American Medical Association an invitation to meet in Louisville in 1912.

MARRIAGES.

Dr. E. B. Bradley, of Lexington, Ky., to Miss Norma Stephenson, in Covington, Ky., March 16.

Dr. Elmer L. Henderson and Miss Laura B. Owen, both of Louisville, in Springfield, Ky., April 4.

Dr. John W. Price to Miss Louise Reid Bruce, both of Louisville, in Louisville, April 26.

Dr. S. T. Yeatts, of Westbourne, Tenn., to Miss Maricita Peak, of Louisville, March 22. Dr. Yeatts has located in Louisville.

DEATHS.

Dr. C. A. Crain, in Helena, Ky., aged 45 years.

Dr. George B. Thomas, in Maysville, Ky., aged 45 years.

Dr. Joseph T. Miller, died at his home in Hartford, Ky., March 11, from pneumonia, aged 71 years.

Dr. James Milton Peck, of Arlington, Ky., died in Riverside Hospital, Paducah, March 14, from abscess of the liver and general sepsis, following an operation for appendicitis, aged 53 years.

Dr. Emory B. Johns, of Lexington, died in that city April 6. Aged 60 years.

Dr. William T. Risque died at his home in Paynes Depot, Ky., March 24, aged 83 years.

Dr. Cain C. Godshaw fell from the window of his office in Louisville April 3, and was instantly killed, aged 55 years.

Dr. Abraham R. Groves, of Louisville, died April 17, from nephritis. Aged 75 years.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton" May 1, 8, 15 and 22.

| | |
|----------------------------|-------------------------|
| DR. V. E. SIMPSON..... | President |
| DR. A. L. PARSONS..... | } Vice Presidents |
| DR. W. B. GOSSETT..... | |
| DR. H. N. LEAVELL..... | Treasurer. |
| DR. DUNNING S. WILSON..... | Secretary |

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House May 9 and 23.

| | |
|----------------------------|----------------|
| DR. J. A. FLEXNER..... | President |
| DR. ARGUS D. WILLMOTH..... | Treasurer |
| DR. G. B. JENKINS..... | Vice President |
| DR. H. J. FARBACH..... | Secretary |

LOUISVILLE SOCIETY OF MEDICINE; meets at the Galt House May 4.

| | |
|-------------------------|----------------|
| DR. W. A. BOLLING..... | President |
| DR. C. B. SPALDING..... | Vice President |
| DR. RICHARD T. YOE..... | Treasurer |
| DR. W. O. GREEN..... | Secretary |

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club May 18.

| | |
|-----------------------------|----------------|
| DR. C. G. HOFFMAN..... | President |
| DR. VERNON ROBINS..... | Vice President |
| DR. CHAS. W. HIBBITT..... | Treasurer |
| DR. A. C. L. PERCEFULL..... | Secretary |

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club May 12 and 26.

| | |
|------------------------------|-------------------------|
| DR. J. GARLAND SHERRILL..... | President |
| DR. J. ROWAN MORRISON..... | Vice President |
| DR. FRANK C. SIMPSON..... | Secretary and Treasurer |

WEST END MEDICAL SOCIETY; meets at the Old Inn May 11.

| | |
|--------------------------|-------------------------|
| DR. I. A. ARNOLD..... | President |
| DR. H. L. READ..... | Vice President |
| DR. JOHN K. FREEMAN..... | Secretary and Treasurer |

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Stanford, Ky., July 20, 1911.

CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., August 10, 1911.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., May 10, 1911.

SOUTH WESTERN MEDICAL ASSOCIATION; meets in Paducah, Ky., May, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Versailles, Ky., July 13, 1911.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., October 24, 25 and 26, 1911.

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., June 27-30, 1911.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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Original Articles

THE THERAPEUSIS OF TUBERCULIN.*

WITH OBSERVATIONS AS TO ITS VALUE IN THE TREATMENT
OF TUBERCULOSIS.

BERNARD J. O'CONNOR, M. D.,
LOUISVILLE.

Tuberculin is the toxin elaborated by the tuberele bacillus. In culture it occurs both as an extracellular or soluble toxin and as an intracellular or insoluble product, and can thus be obtained either by filtration of the culture or by digesting or crushing the bacilli. It is apparently protein in nature as it can be precipitated with alcohol and acids. It is soluble in water and in glycerin. In weak dilutions it deteriorates to a considerable extent after several weeks, but in undiluted form retains its full potency over a long period of time. Moderate degrees of heat apparently have no influence upon its strength. The liberation of tuberculin incident to the multiplication of tuberele bacilli in tissues is responsible to a large extent for the symptoms and pathological changes occurring during the disease.

As a therapeutic agent it must be classed with the toxins or vaccines, a class of biological products which stimulate and augment the defensive or immunizing powers of the tissues and body fluids against infection and its consequences. By this

*Read before the Louisville Clinical Society.

class of preparations active immunization is aimed at, and thus they distinctly differ in their use over the antitoxins or serums, which confer a passive immunity. In the scientific use of these products it is essential that a certain period of time must be allowed to elapse before the repetition of a secondary dose in order to give the tissues opportunity to produce antibodies and immunizing products.

Some twenty years ago Koch recommended tuberculin as a curative agent, but unfortunately he advised the use of enormous doses (1 mgm. to 1 cgm.). Injurious and harmful effects were soon noted and through the protestations of Virchow and others tuberculin fell into disuse. Petruschky, Spengler, Trudeau and a limited number of others continued investigations as to its uses. From their experiences and the better understanding of the processes involved in the immunization and cure of infectious diseases the use of tuberculin has gradually become more general, until at present, when it again occupies a position of prominence in the treatment of tuberculosis. According to its present methods of administration it is not only harmless but also potent for much good.

TUBERCULIN PREPARATIONS.

The preparations of tuberculin employed clinically are chiefly those from cultures of virulent human tubercle bacilli. Preparations from the bovine type of organisms are used extensively in England and in Europe.

Koch's Old Tuberculin (T. O.) and Denys' Bouillon Filtrate (B. F.) are the concentrated filtrates of a six to eight weeks' old glycerin bouillon culture, passed through a porcelain filter in order to separate the soluble toxin from the living bacilli. The former is subjected to heat, the latter to simple filtration. They are preserved by the addition of $\frac{1}{4}$ per cent. of phenol or trikresol. These preparations are more uniform in their strength and may be used with the greatest degree of safety.

Koch's Old Tuberculin (T. O.) and Deny's Bouillon Filtrate (B. E.) are glycerin emulsions of washed, dried and pulverized virulent tubercle bacilli. The former contains 1 mgm. of the solid bacillary substance to each cubic centimeter of the glycerin emulsion, while the latter contains 5 mgm. These preparations represent the intracellular or insoluble

toxins and their nature is more like that of a vaccine or bacterin.

These four preparations have the most extensive usage. From animal experimentation Von Behring¹ states that one part of T. R. equals two parts of T. O. or B. F.; while one part of B. E. is equivalent to four or five parts of T. O. Except as already mentioned one preparation seems to be as useful therapeutically as another.

Beraneek's Tuberenlin is a 20 per cent. solution of precipitates from bouillon cultures with alcohol and phosphoric acid. It is said to be less toxic than T. O.

Van Ruck's "Watery Extract" is a solution prepared from the filtered pulverized tubercle bacilli.

Tuberculoceidin (Klebs) is a solution of the bismuth precipitate of Koch's old tuberculin.

Tuberculo-toxoidin (Ashigami)² is a preparation from bouillon cultures treated with dilute sulphuric acid. According to the author it is the least toxic of all tuberculin preparations.

Bovine or "Perlsneht" Tuberculin (P. T. R.) is identical to T. O. except that the culture is of bovine tubercle bacilli.

DOSAGE AND METHOD OF ADMINISTRATION.

The majority of authorities are agreed upon the fact that the best results are obtained when tuberculin is given in small, gradually increasing doses, which fall short of producing unfavorable reactions. Wright advocates minute doses based upon the estimation of the opsonic index, but he is almost alone in his views, since almost all observers abide by clinical manifestations and experience as a basis for the frequency and size of the dose. Minute doses should always be employed at the beginning of a course of tuberculin and as long as small doses are being used it is usually safe to increase each succeeding dose at the rate of 50 per cent. over its predecessor. When a dosage of 1-1000 mgm. is attained the rate of increase should be about 25 per cent., and when the dosage reaches 1-100 mgm. a 10 per cent. increase in the majority of cases is sufficient. The initial therapeutic dose of O. T. and B. F. may be approximately stated as about 1-10,000 mgm.; that of T. R. and B. E. at 1-100,000 mgm. Somewhat smaller doses are advisable in febrile cases. The increase in dosage should always be upon a percentage basis, but when any disagreeable

effects are noted after the administration of tuberculin the succeeding dose should be either, entirely omitted, or considerably decreased. There is no exact guide as to the maximum or final dose to be administered, but the following arbitrary limits are set by Klebs O. T. and B. F., 1 CC.; B. E., 5 mgms.; and T. R., 2 cgms. If a change be made at any time during the treatment from one type of tuberculin to another, decidedly smaller doses of the new preparation should at first be employed. Also, when a new quarterly or new stock of even the same type of preparation must be used, the first few doses of the new stock should be smaller than those last given from the old stock.

Frequency—As long as the dose administered is small, the injection of tuberculin may be given every fourth to fifth day. When the dosage reaches 1-100 mgm. the interval between the doses should be seven to ten days. Such intervals between doses are absolutely essential since several days are necessary for the elaboration in the body of protective or immunizing substances in the process of active immunization. When unfavorable manifestations follow the administration of tuberculin not only should the next dose be smaller but a longer time should be allowed to elapse before it is injected. Under no circumstances is it justifiable to give secondary injections during the time when manifestations of even a mild unfavorable reaction are present. The injections should be given over an average period of about six months, numbering about thirty.

Dilution—In order to employ tuberculin scientifically the dilutions necessary to progressively increasing doses must be made by means of a pipette graduated in 1-100th of a centimeter and a graduate of 10 cc. graduated in 1-10th of a centimeter. A glass syringe graduated in 1-10th of a centimeter is advisable for its administration. Such glassware should be carefully washed and sterilized. The diluent should be normal saline with $\frac{1}{4}$ per cent. of phenol. The dilution should be made shortly previous to its use.

Technique of Administration.—The injection is similar to that of any hypodermatic injection, while any site may be selected it is preferably given between the scapulae; subcutaneous injection is more advisable than intramuscular or

intravenous. As a preliminary to its use temperature and pulse rate observations should be recorded for several days prior to the first injection and at least three times daily during the course of treatment. A blank record may be given to the patient in order that he may record any symptoms favorable or otherwise before and after the use of tuberculin. Should any complications, such as an acute coryza, acute bronchitis, pleurisy, pneumonia, etc., arise during the treatment its cessation for the time being is advisable.

SELECTION OF PATIENTS FOR TUBERCULIN.

Extremely acute or actively progressive cases of tuberculosis are not benefited by tuberculin. Incipient patients in the so-called prebacillary stages with little or no elevation of temperature are naturally the most favorable type of subjects. Moderately advanced cases, and even well advanced cases, while not as favorable from the standpoint of cure as incipients, show a much larger proportion of cures and improvements than those in similar stages not treated with tuberculin. The patient selected for tuberculin therapy should be one that shows some resistance to the disease, and one that shows some improvement under the regular hygienic-dietetic regime. Probably the class of subjects to whom tuberculin will comparatively speaking do most good are those who can not avail themselves of the advantages of the sanatorium. Tuberculin therapy, however, does not supplant the necessity or advisability of such institutions, nor can it be used more scientifically in the home or dispensatory than in the sanatorium.

A persistent temperature of over 100, night sweats, chronic diarrhoea, markedly impaired nutrition, progressive loss of weight and extensive laryngeal involvement are contraindications.

EFFECTS OF TUBERCULIN.

The administration of tuberculin, either endermically, hypodermatically, or per oram to perfectly healthy tubercular free subjects, even in comparatively large doses, produces no noticeable effects. Its use on those who have an active or latent tubercular lesion in sufficient doses is followed by cer-

tain manifestations termed reactions, which become evident within six to seventy-two hours, locally, at the site of its administration, focally, at the location of the tubercular lesion, and systematically, in the shape of certain subjective, objective and special changes. Such reactions in those afflicted with tuberculosis are due to the presence in their tissues and body fluids of sensitizing substances, in the shape of lysins or other antibodies, which have developed or formed as a direct consequence of the disease, and which combine with the tuberculin in such a manner that it exerts its full toxic value. The intensity of these reactions depends upon the amount of the tuberculin given and the individual susceptibility (a factor capable of considerable variations) to the toxin.

Local Reaction.—The character of the local changes following the application or injection of tuberculin is that of an ordinary inflammation without, however, any tendency to suppuration. The local reaction is of the greatest importance since it affords a reliable and easy method of making an early diagnosis and also furnishes distinct indications as to the therapeutic dosage. Drs. White and Van Norman³ claim that the percentage dilution of tuberculin necessary to bring about a certain limited Von Pirquet test can be used as a guide to the size of the initial dose of old tuberculin that may be used therapeutically without bringing about a systematic reaction. In the subcutaneous injection of tuberculin for diagnostic purposes an inflammatory nodule or zone of infiltration will usually develop within twenty-four to forty-eight hours and remain for several days. In the therapeutic use of tuberculin local reactions are said to always precede systemic reactions and their presence constitutes a valuable index as to the size and time of administering the next dose. An injection of tuberculin should never be given as long as any traces of a local reaction are present; nor should the dose be increased after they have occurred from a preceding injection.

Diagnostically the local reaction of tuberculin is valuable, in adults, by the instillation of a 1 per cent. solution in the conjunctival sac, as advised by Calmette.⁴ It brings about within six to thirty-six hours in tubercular subjects a distinct reddening and congestion of the conjunctiva, with a varying amount of exudate formation and swelling of the caruncle.

Dilute solutions of tuberculin applied to slightly scarified areas of the skin, as recommended by Von Pirquet, are especially useful in diagnosing the disease in childhood. A 1 per cent. ointment of tuberculin in lanolin, as advised by Moro for diagnosis, rubbed into the skin of a tubercular patient will cause a distinct dermatitis often attended with vesication.

Organ or Focal Reaction.—Changes at the site of tubercular lesions occur from the subcutaneous use of tuberculin when the dose is moderately large. The larger the dose the more distinct the manifestations. When such lesions are visible as in the eye, the larynx, the skin or lymph nodes a certain amount of swelling, infiltration and hyperaemia are readily noted. Focal symptoms both subjective and objective may be increased. While the large doses which bring about distinct focal reactions are probably harmful, in all probability the actual therapeutic value of tuberculin depends to a great extent upon the constant recurrence of mild, non-recognizable reactions and the hyperaemia, phagocytosis and a possible tendency to fibrosis, incident to the focal changes. While distinct focal reactions may occur during a course of tuberculin and seem to do no special harm, their repetition is to be studiously avoided by decreasing the dose.

Systemic or General Reaction.—These are indicative of a rather intense toxæmia, they are invariably accompanied by local and organ reactions, and are evidenced by an elevation of temperature, ranging from a fraction of a degree to several degrees, increased rapidity of the pulse rate, feelings of malaise, weakness, headache or other pains, a loss of appetite or a diarrhoea, restlessness, insomnia or other manifestations. While systemic reactions are useful diagnostically and occasional mild systemic reactions during a course of tuberculin are apparently not injurious, their frequent recurrence cannot but be fraught with ill consequences. In the modern use of this product it should be one's constant aim to avoid any general reaction.

EFFECTS OF REPEATED INCREASING DOSES.

Temperature.—The majority of those who have employed tuberculin claim that it has an antipyretic effect on tubercular elevations of temperature. While a large dose will undoubtedly

bring about an increase in such temperature, small and repeated will unquestionably often reduce a temperature, which ranges around a 100 despite rest and fresh air, to normal in many instances. Some claim that the preparations of tuberculin from bovine tubercle bacilli exert the most decisive antipyretic action.

Sputum and Cough.—Cough is often increased in the beginning and coincidently the amount of sputum. This is evidence of a focal effect of the toxin. As the toxæmia subsides these symptoms decrease and later as the patient becomes immunized to tuberculin become markedly diminished or entirely disappear. Not only does the amount of the sputum become less and less but the numbers of tubercle bacilli eliminated is decreased until the sputum may show absolutely no bacilli. Similar changes are of course noted from the ordinary methods of treatment, but experience has demonstrated that the percentage of such ameliorations is considerably larger for those who are treated with tuberculin than those who are not.

Weight and General Nutrition.—No great or distinct effects are noted during a course of treatment. In the vast majority of instances, however, the weight increases and the appetite improves. In some cases the weight commences to increase only after the cessation of the treatment.

General Condition.—Tuberculin patients apparently soon become less subject to toxic manifestations, their digestive powers are to all appearances more orderly, their vital capacity is increased; mentally they are more hopeful and cheerful.

Important Side Effects.—During a course of tuberculin injections the agglutinating powers of the patients blood serum on the tubercle bacillus are increased; the amount of opsonins in the serum, an indispensable factor in the activation of the phagocytes, are proportionally augmented. The latter is probably more distinct when small non-increasing doses are employed as recommended by Wright. Several authors claim to have demonstrated the formation of a certain amount of antituberculin or antitoxin after progressively increasing doses. One of the most certain effects of increasing dosage is that the patient can be gradually rendered immune

to the toxin. While this toxin immunity is not equivalent to an immunity against infection with the bacilli, it is unquestionably of considerable importance.

ADJUNCTS TO TUBERCULIN THERAPY.

The cardinal triad in the treatment of tuberculosis of properly modified rest, continuous fresh air and a liberal nutritous diet can not be supplanted by the use of tuberculin. Tuberculin should in fact never be used by anyone who does not fully understand the value and applications of such measures.

Tuberculin, *per se*, is not a curative agent, but is simply an important addition to the ordinary conservative methods of treatment. In cases of tuberculosis, in which a large proportion of the symptoms is due to mixed infection or complications, it is of primary importance that secondary infection receive first attention by antogenous vaccines, serums or ordinary methods of medication and treatment.

If suppuration or caseation has already taken place in lymph nodes, bone or other tissue the administration of tuberculin is useless unless preceded by the necessary surgical measures. In cases of tubercular peritonitis or pleurisy with exudates it is usually advisable to aspirate and remove the fluid before commencing the tuberculin. Sequestrum formation and necrosis of bone in tubercular osteo-myelitis practically render preliminary surgical measures imperative. In joint tuberculosis accepted general measures and local treatment such as fixation and removal of pressure, should be utilized in connection with tuberculin. Secondary infections often play a more important role in the maintenance of tuberculous fistula than the tubercle bacilli. In such cases tuberculin is usually worthless.

VALUE IN DISPENSATORY OR OFFICE PRACTICE.

After a careful study of the reports from those who have employed tuberculin in dispensatory one might reasonably say that in this field tuberculin therapy affords its greatest value. From the statistics submitted by Denys,⁵ Miller,⁶ Hawes, Floyd, Hamman, Wolman, Ashigami and others it seems reasonable to conclude that at least 20 per cent. better

results are obtained amongst tuberculin treated dispensatory patients than similarly affected patients not so treated. Of dispensatory patients in the first stage of the disease treated with tuberculin almost as many apparently recover as do those in such stages treated in the best regulated sanatoria.

Prof. K. Hammer⁷ states that after ten years' experience in the Heidelberg Medical Clinic with the use of tuberculin on out-door patients, that it can be carried out in practically every case without danger, and makes a plea that every physician acquaint himself with the technique and dosage of tuberculin and its mode of administration.

Dr. W. Camac Wilkinson,⁹ citing the statistics of English sanatoria, maintains that tuberculin gives better results than sanatorium methods at less cost and that it does not interfere with the patient continuing his employment. While such a radical position is entirely inadvisable the statistics of dispensaries, in which tuberculin is largely employed, seems to afford at least some grounds for such a statement.

The more constant care, observation and association which a course of tuberculin treatment necessitates on the part of the physician and patient, in dispensatory or regular practice, is unquestionably a matter of great importance and argues strongly for the use of tuberculin in the office, dispensatory and home.

VALUE UNDER SANATORIUM REGIME.

Unfortunately among authors reporting the results of their use of tuberculin in sanatoria there is little or no uniformity either in their method of estimating results or in their classification of patients. As a consequence it is extremely difficult to sum up the value of tuberculin by making accurate comparisons. From the records of Trudeau, Moeller, Langenbach, Nagel, Bandelier, Roepke, Schmoeller, Raw and others the following conclusions seem to be conservative and safe. That incipient cases do but slightly better than the non-treated in the sanatoria. The moderately advanced cases show decidedly better results for tuberculin than those who have been without it, the amount of the advantage being about 15 per cent. Far advanced cases of tuberculosis subjected to tuberculin treatment also show considerably better results than non-treated

cases in such stages. Trudeau holds that tuberculin makes the cure more definite and lasting and states that probably 18 per cent. more of tuberculin treated incipient patients are alive than non treated.

VALUE IN TUBERCULOSIS OF SPECIAL TISSUES.

Dr. Nathan Raw⁹ claims that pulmonary tuberculosis is due to the human type of tubercle bacillus and that tuberculosis of the lymph-nodes, skin, bones, peritoneum, etc., is caused by infections with the bovine type of organisms; and furthermore, that tuberculin prepared from cultures of the contrary or opposing type of germ to that responsible for the infection gives the best results. In other words he treats pulmonary infections with bovine tuberculin and tuberculosis of other organs with human tuberculin. His articles are well worth perusal, but this important view is not generally accepted.

Glandular Tuberculosis.—In uncomplicated cases of scrofula or tubercular lymphadenitis statistics afford favorable results.

Ocular Tuberculosis.—From the reports of Dr. Geo. S. Derby¹⁰ on the use of tuberculin in ocular tuberculosis the tuberculin treatment is indicated in such lesions in preference to any radical measures.

Genito-urinary Tuberculosis.—Dr. F. E. Gardner¹⁰ gathered data from forty-six authors on the use of tuberculin for tuberculosis of the kidney, bladder, prostate, fallopian tubes, testes, etc., embracing over 200 cases. Of these 27 per cent. were cured, 47.5 per cent. were improved, and 25.5 per cent. unimproved. Mixed infection plays an important role in this class of cases. Distinct surgical indications should always be met before attempting tuberculin injections. Dr. Hugh Young¹⁰ cites six cases in detail with decidedly favorable results.

Tuberculous Peritonitis.—Raw claims that tuberculin is practically specific.

Cutaneous Tuberculosis.—Not only Raw but others advocate the use of tuberculin in all cases of lupus and tuberculids.

Tuberculous Meningitis.—If a correct diagnosis is made early tuberculin treatment may do good. Raw claims to have cured three cases.

Tubercular Arthritis and Osteo-myelitis.—While Wright and Raw are strong advocates of the value of tuberculin in connection with normally conservative measures, Dr. James Ridlon,¹⁰ of Chicago, cites a series of eighteen cases with no decided effects or advantages.

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SURGERY OF THE RUSSO-JAPANESE WAR.*

ALBRO L. PARSONS, M. D.,
LOUISVILLE

It may be considered presumptuous for me, who never smelled gunpowder, to choose for a topic, "Military Surgery." I offer in defense, first, my interest in the subject, engendered by a firm belief in the stormy future of this country, and secondly, the references appended, which are the sources of my information.

With the close of the Russo-Japanese War, the most flattering reports appeared in the lay periodicals concerning the accomplishments of the Japanese. They were heralded as the greatest of organizers, the most accomplished of diplomats, the most fore-sighted of sanitarians. No specialty was so limited but they excelled in it. Spurred by the comparisons drawn be-

*Read before the Louisville Society of Physicians and Surgeons.

tween the Japanese and ourselves, I determined to examine these reports in an effort to conclude for myself whether the "little brown men" were really so superior.

Realizing my ignorance of ordnance, strategy, and, indeed, of field sanitation, my investigations were directed along surgical lines, in which field I felt that I could, at least, appreciate the methods used and the results obtained. If the Japanese had distanced other nations in so many departments of the science of war, surely military surgery did not lag behind, and a perusal of its history should disclose achievements no less brilliant than startling.

To use as a basis of comparison the surgical history of the Franco-Prussian War is obviously unfair, for surgery has made long strides in the last forty years. Neither can the China-Japanese conflict, the Boer War, nor our own fight with Spain, be utilized, for various and easily appreciated reasons. Perforce I have turned to the surgical history of the Russians in battle with the Japanese, and shall compare their surgical methods and results with those of their opponents. This is fair to both.

The war, as a whole, may be characterized as a humane one. The bullets were small in calibre and jacketed. Both armies had their medical departments largely augmented by the Red Cross Society, and the rules of the Geneva Conference were well adhered to. The troops enjoyed better health than had any army previously mobilized. This was due to the splendid work in prophylaxis done by the medical corps of the respective forces. The proportion of sickness was about the same, the Japanese having a shade the better. Percentages of mortality, infections, and of recoveries in the field and base hospitals have been hard to secure. Indeed, as far as I am aware, no complete statistics have been issued. Therefore, the figures here used are approximate only, and are based on statements of military observers. These statements are at times somewhat at variance. Where several opinions agree against that of a single individual, I have accepted the majority verdict.

Before comparing actual results, let us for a moment consider some of the factors which go to make a high or low mortality. The surgeons of the armies were recruited in totally

different ways. With the Japanese, every surgeon from the first dressing station to the base hospital, was a product of special training in a military medical college. This was not true of Russia. She, too, has a military medical college, but her corps of surgeons was far from complete. Civil surgeons, general practitioners, and even obstetricians were called upon and had to be whipped into shape as military surgeons. "The relative surgical ability of these different classes varied very widely, quite in contrast to the Japanese who were all from the same mold."—(Lynch).

Another factor affecting the surgical results of the war was the difference in weapons used. I speak of rifles only, for approximately 70 per cent. of the wounds inflicted were caused by that weapon. The Russian bullet was a little larger, a little heavier, and tended to become deformed more readily. Later, the Japanese reserves used a rifle nearer the calibre of their opponents, the projectile weighing almost the same. The results of these differences can be readily traced in the wounds. The Russian bullet is credited with more "stopping" power, dropping the foe in his tracks, while Russians came on after receiving one, or even more, small calibre Japanese projectiles. Wounds inflicted in the middle distance by the Japanese, were small neatly drilled holes. The clothing was cut sharply and did not often enter the wound. Bone also was drilled, quite in contrast to the shattering effect of the Russian weapon. Russian bullets had a more smashing effect on the soft tissue, causing laceration and contusion. They devitalized more structures. Outside of middle distance, the explosive effect of both arms was noted. The larger Japanese rifle inflicted wounds similar to the Russian. All observers agree that the Russian bullet carried more foreign matter into the wound, and tended more often to lodge. This, taken in conjunction with the ragged condition of wounds, may account for much of the infection found in Japanese hospitals.

(Artillery wounds on both sides made up about 20 per cent. of the total wounded; the saber and bayonet were responsible for less than 1 per cent. of all wounds, and can be neglected.)

Another factor is the first aid packet. The Russian packet is pronounced by all observers as good, or better than the Japanese. This, however, applies only to the Japanese army,

for after the first naval engagement, Dr. Suzuki developed a splendid packet for his sailors. Opinions differ as to general use of the first aid packet in the Russian army, most authorities stating that many troops were without it. Certainly, Russian soldiers were not as well instructed in its application as were the Japanese. In the matter of first aid, then, neither side derived all the benefits possible.

The personal cleanliness of the Japanese troops was of great surgical assistance. The Russians, though clean enough in summer, were, in winter, anything but aseptic. This was an obstacle in the path of Russian surgery not encountered by their Japanese colleagues. Another point which favored the latter was the fact that the Japanese army always advanced. Hospitals originally intended to be mobile, were soon far in the rear and became automatically permanent. With the Russians, conditions were reversed. Many a hospital along the lines of communication had to be evacuated to be re-established farther north. The more a severely wounded soldier is moved, the less are his chances for recovery. Dr. Manteufel feared a long journey for his abdominal cases more than any other thing.

To recapitulate them: An unclean Russian soldier is afflicted with a neat, aseptic bullet wound. A good first aid packet is poorly applied, and after several journeys he comes under the care of a civil surgeon. The Japanese, however, has his clean body torn and punctured by a bullet which probably carries with it some clothing. Any bone hit is shattered. A poor first-aid packet is skilfully applied, and he comes to rest in the hands of a military surgeon.

What, now, was the fate of the wounded in each camp, banded under the conditions above described? How many returned to the line in one month? The only Japanese statistics I have are those issued by the Surgeon-General of the Second Imperial Japanese Army. That officer reports 19 per cent. recovered in the field, 65 per cent. sent to Japan, and 16 per cent. died (Lynch). In contrast to this Dr. de Wredin, Chief Surgeon for the Russian Manchurian Army, after the battle of Turenchen, reports 32 per cent. of the wounded to be on duty in one month (Harvard & Hoff). Shüeking and Minier both report similar claims by Russian surgeons. Can this difference

of 33 per cent. in the speed of recovery be accounted for by the difference in bullets? Possibly. Shüeking has estimated the relative time of healing of Russian and Japanese wounds to be as 6 to 10.

The field surgeon must necessarily have a high mortality. He sees the most desperate cases under most chaotic circumstances. His colleague in the permanent hospital, however, has much the advantage in point of risks. But here again the Russians have a better mortality rate—4 per cent. against 6 per cent. (Harvard & Hoff). In explanation of this, Hoff says: "The fact, if it is a fact, that 33 1-3 per cent. more wounded Japanese died in the hospital than did wounded Russians, would indicate that the more severely wounded among the latter were per force left to die on the field." Lynch quotes a report issued by the Japanese Government, which gives a mortality rate of 6.83 per cent. for wounded under hospital treatment. Contrast this with Dr. Butz, in a Russian Mukden Hospital, who claims a 1 per cent. rate for the first 6,000 cases, and less than $\frac{1}{2}$ of 1 per cent. for clean ones. The Russian Chief Surgeon, after Liago Yang, says the Japanese bullets wounded 65 per cent. of his men, of whom but 3 per cent. died.

From these reports it is safe to conclude that more (shall we say 1-3 more?) wounded Russians recovered, not only in the field but also in the hospitals. Taking the whole war, Hoff says the Russian mortality among the wounded was 2.8 per cent.—certainly a fine showing. Practically the same figures are given by Harvard. Major Seaman, on the other hand, states that the Japanese lost 6 per cent. of their wounded, and Braisted, as well as Suzuki, give a similar percentage for the wounded in the Japanese navy.

We will compare, now, the methods of treatment instituted by the respective surgeons in the hope of finding some explanation for this difference in mortality.

It is a recognized rule of military surgery to send the wounded as far to the rear as their condition will permit, and that only the most pressing need justifies operating in the unsurgical surroundings of a mobile hospital. The Russians transgressed this rule in the early stage of the war, doing amputations and even laparotomies in the field hospital. They

soon learned and corrected their mistake. The Japanese, however, fell into the opposite error, allowing the wounded to incur a long journey to a base hospital, and suffer weeks of suppuration, rather than remove a spiculum of dead bone by the simplest operation. "They put off operation till the condition of the patient demanded it" (Lynch). Their conservatism in major cases was indeed commendable, but they carried it too far. They are to be complimented, however, upon the thoroughness displayed in searching out bits of foreign matter, once surgical procedures were determined upon.

Japanese surgeons criticized their Russian colleagues for operating too soon, and it is truly said that the Russians were prone to remove lodged bullets, etc., which might well have proved harmless. But, after the very earliest part of the hostilities, they practiced conservatism. With apparent justice they can be criticized for their long incisions, presumably to relieve tension. In trephining, etc., they needlessly sacrificed bone, large cerebral herniæ resulting. But I can find no mention of their being radical to a harmful degree. Both sides were extremely cautious in abdominal wounds, preferring rest and opium to operation. This was true also of chest cases.

In technique the opposing surgeons followed different lines. The Japanese practiced antisepsis in the field, reserving asepsis for the large hospitals. In contradistinction to this, the Russians placed their reliance in asepsis, and their aseptic technique was not good. If there is a blot on the surgical history of the war, it is in the matter of infection. The Japanese claim 20 per cent. of the wounds of soft parts, made by undeformed bullets, suppurated, but observers on the ground maintain that 60 per cent. is nearer correct. Russian surgeons state that, in summer, 10 per cent. of such wounds were infected, and in winter only 10 per cent. escaped. Russian compound fractures very often remained sterile—a very rare occurrence in like wounds among the Japanese. Practically all artillery wounds on both sides were infected. Gloves, in both camps, were conspicuous by their absence. Had they been used, much of the pus would have been averted, as shown by the splendid work of Dr. Manteufel, the only surgeon in the far East, so far as I am aware who used them.

The use of iodine in and about the wounds, and on the surgeons' nails, was a Russian practice not imitated by the Japanese, and in the light of later developments, it may well have had its effect. Japanese wounds were left dry, while the Russians used sterile water and alcohol freely. Mention is made of the use of iodoform gauze by the Japanese. Silk and linen replaced all animal ligatures in both armies.

In the matter of mechanical skill, opinions differ. The Japanese adopted, always, the easiest way mechanically and showed little ingenuity in their work. As one observer puts it, "the Japanese surgeons are apparently rather limited in their methods of surgical treatment; they follow routine methods too closely." Braisted, however, praises the excellence of their plastic work. "Mechanically, the Russian surgical work was somewhat better than that of the Japanese, but they did not equal the latter in surgical cleanliness (Lynch). A point in the Japanese favor was their sterilization of gauze immediately before using, while the Russians relied upon ready sterilized packages.

In justice of the Japanese, the fact must be mentioned that, at the close of hostilities, they had but 3,000 missing, against nearly 40,000 missing Russians. If the fates of these 40,000 soldiers were known, what influence would it have on the mortality tables?

The ambulance organization in the Japanese army was inferior to that of their opponents. It will never be known how many wounded Russians died from exposure on the field, before aid arrived. They, of course, are carried in the tables as "died." Had they been promptly found, as were the Japanese, they must have appeared as wounded.

Taking all this into consideration, Lynch gives it as his opinion that the Japanese surgeons were superior to the Russian, but he adds: "Japan may be said to be yet in the pre-surgical stage of her development, that is to say, she has not reached a realization of the beneficial effects of good surgery, and in civil life surgery is a last resort, as it was with us in the pre-antiseptic days."

In discussing Major Seaman's paper in Detroit, Major Newkirk gave our own mortality among the wounded of the Cuban

army as 14 died out of 1,560 wounded. Gratifying as this is to us, it is somewhat explained by the type of fighting. After a close perusal of the literature published in this country, and some translations, I do not feel that Japan, however victorious in arms, excelled her opponent in surgery. The enthusiastic accounts of the almost uncanny proficiency of the Japanese along other lines would lead one to expect the same preescience in surgery, but, instead of having our surgical eyes opened by the intrepid sons of Nippon, their most ardent flatterer, Major Seaman states: "In surgical technique and after treatment, the Japanese have taught the foreigner comparatively little."

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RABIES.*

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Rabies is an acute virulent specific, rapidly fatal malady, and is peculiar to, and originates primarily, in the canine species. Its occurrence in the same manner in other carnivorous animals, as the fox, hiena, wolf, jackal, skunk and others has been asserted, but there is every probability that it is originally

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a disease of the dog. It is communicated by inoculation to nearly all, if not all warm-blooded creatures. The transmission only certainly takes place from one animal to another through inoculation with virulent matter. The malady is usually characterized at a certain stage by irrepressible desire on the part of the animal affected to act offensively with its natural weapons, and thus it is that the dog desires to bite everything which happens to cross its path while in this furious state of madness. Hence the common term, "mad-dog," as applied to the rabid animal. Rabies has been known from very early times, just how early, we are not positive, but certainly for many centuries before the Christian era. It is known to exist in many parts of the world, being prevalent in most of the countries of Europe and North and South America. It is known in North and South China and is frequent and very fatal in India. It occurs in Norway, Sweden, Denmark, Russia and Lapland. The disease is probably unknown in Australia and New Zealand, due to the rigid enforcement of quarantine laws. Rabies or hydrophobia always occurs in man as the result of an accidental infection from some lower animal, usually the dog.

Statistics gathered by the Pasteur Institute of Paris covering 16,172 persons bitten by rabid animals show that 15,121 were bitten by dogs, 959 by cats, 14 by wolves, 2 by jackals, 9 by horses, 32 by mules, 40 by cattle, 67 by sheep, 3 by pigs and 13 by man. The danger following the bite of a rabid animal depends on the species of the animal, and the extent and location of the wound. A bite of the wolf is the most dangerous of all, owing partly to the great activity of the virus, and partly to the savage mode of attack of that animal, lacerating and tearing the flesh most extensively. Next in point of danger is the bite of the cat, and third that of the dog. Of 8,430 persons bitten by rabid dogs 77 or .91 of 1 per cent. died, whereas of 193 bitten by wolves, 17 per cent. died, these being under the Pasteur treatment of Paris. Bites on exposed parts of the body are more dangerous than those made through the clothing, as the clothing cleanses in some measure the virus of the teeth. Bites in parts of the body having a rich nerve supply are particularly dangerous, for instance if the injury occurs on

the face the virus is rapidly carried to the medulla. The comparative danger is shown in statistics of 18,645 cases treated at the Pasteur Institute. Of 1,608 cases bitten on the head 21 or 1.36 per cent. died. Of 10,254 bitten on the hand only 47 or .46 per cent. died. Of 6,783 persons bitten on the limbs, only .29 per cent. died; showing a much greater mortality in those cases bitten on the head or face. The disease may be transmitted to man by the rabid animal licking an abraded surface on the hand or face. It may also be contracted through wounds received while making autopsies on the dead bodies of animals or man. In all cases an abrasion of the surface must be made for the virus cannot pass through healthy skin. It is doubtful if the virus can even be absorbed from the digestive tract. Not every person bitten by rabid animals become infected. A conservative estimate places the percentage at 16 to 20. This estimate applies to cases bitten by the dog. Two-fifths of all persons bitten by rabid animals are under 15 years of age. Children are more likely to be bitten than older people and in greater numbers because of their habits of collecting together in groups for play, also because of their inability to defend themselves. Statistics carefully gathered from different institutions show that a larger number of persons are bitten during the months of March, April and May than any other portion of the year, and that the smallest number are bitten during the months of September, October and November, although this is contrary to the popular public opinion. The virus or poison is always contained in the saliva and appears to be secreted chiefly by the parotid gland, although not exclusively, as the salivary glands are themselves more or less virulent. The saliva of the rabid dog has been shown to be virulent 24 to 48 hours before any symptoms of rabies are manifested. Therefore when a dog has bitten a person it should be kept in confinement for a number of days before it is killed in order to determine whether or not it is rabid, otherwise we may be in doubt as to what course to pursue relative to treatment.

The blood and lymph never contain virus. On the other hand every part of the central nervous system does contain it. Especially is this true of the medulla, the long nerve trunks and the cerebrospinal fluid. It has been found that the peripheral

nerve, even on the opposite side from the seat of injury contains the virus. The exact nature of the virus is unknown. There seems to be no question that the disease is caused by a specific micro-organism which after being introduced into the body undergoes a period of incubation, during which time it multiplies and produces a toxine, having a special action on the central nervous system, as is the case in tetanus to which it bears a striking resemblance in many of its symptom. A singular fact about the virus of the rabid animal is that it is destroyed when exposed for a sufficient length of time to heat or light. It is also destroyed by drying. Direct sunlight will destroy it in 40 hours. Cold does not affect the virus, it having been exposed to a temperature of 20 degrees below zero for many hours without any appreciable result. The virus has been found to be very active in the nervous system of animals after having been dead and buried for periods ranging from 20 to 44 days. From the point of inoculation the virus makes its way along the nerve trunks until it reaches the central nervous system, producing no symptoms for some time after the virus has reached the central nervous system. The lapse of time between the receipt of poison and manifestation of the symptom is called incubation. The average period of incubation in man is about 40 days, but it varies between very wide limits, the great majority of cases occur between 20 and 90 days. Cases, however, are reported as having occurred one or two years after the injury. But cases of such long delay are classed as doubtful. As a rule there are no symptoms manifested during the period of incubation, whether that period be of long or short duration. The wound usually heals as any other wound of similar character without any local thickening or glandular involvement. In some cases mental depression is marked, but is due to great anxiety and apprehension rather than to the disease; although some cases have been reported of children too young for mental worry where the depression seemed to exist. Also in some cases who were not aware that they had been bitten by a rabid dog. Three stages of the disease are usually recognized, although they are not always well defined, the premonitory stage, the stage of excitement and the paralytic stage. The premonitory stage is often marked by irritation, tingling or numbness at the sight of the bite, or some

times there is quite severe pain, lancinating in character and radiating along the course of the nerves of the part affected. These sensations may exist for 6 to 10 days before any other symptoms appear, but usually this stage lasts from 24 to 48 hours. The patient during this first stage becomes melancholy, complains of general ill feeling, becomes extremely anxious as to his condition, and has a general feeling of impending danger. Sleep becomes much disturbed, the sensibilities become very acute, hyperesthesia and photophobia occur. About this time symptoms referable to the throat appear and some difficulty of swallowing appear, especially liquids. The voice becomes hoarse and husky, dyspnea also appears, requiring an occasional deep inspiration to supply sufficient air for the body. A slight rise in temperature usually occurs about this time together with increased pulse rate. During this period many patients become unnaturally suspicious, irritable in temper, desirous of being let alone. The inclinations and tendencies of the patient being entirely changed. Following closely this first stage is that of the second, or the stage of excitement. The symptoms all increase rapidly in severity. The facial expression is that of terror with marked palor. The muscles are drawn and twitching, the eyes have a haunted look of despair, there is intense thirst, but every effort to swallow brings on a spasm of the muscles of deglutition and respiration, the characteristic hydrophobic spasm. The extreme thirst causes the patient to make repeated and determined efforts at taking liquids of some kind, but every effort at swallowing liquids, especially water, only produces convulsions anew, and these spasms are accompanied by a sense of extreme despair, even when the glottis is widely open or tracheotomy has been performed. The suffering of the patient, both physical and mental during these attacks is extreme. And the dread of them in many cases is so great that even the sight or sound of water or even the suggestion of it by a friend is sufficient to produce the spasm. To this dread of water acquired by experience of its effects is due the name hydrophobia. In man these spasms constitute at once the most distressing feature of the disease, as well as its diagnostic symptoms. As the disease advances the convulsive attacks, which are at first confined to the muscles of deglutition and respiration, now involve other groups of muscles and

become general. The convulsion now may become tetanic in character, accompanied by marked opisthotonos and suspension of respiration, or they may be co-ordinated and thus resemble closely for a time a hysterical convulsion. The frequency and intensity of the seizures now rapidly increase, and death may occur at this point of the disease from asphyxiation.

The mucous surfaces are covered with thick tenacious mucus, the saliva is abundant and viscid, the patient being unable either to swallow or expectorate it, so it often hangs from the mouth in soapy masses, and from this condition has arisen the oft heard expression that the patient suffering with hydrophobia froths at the mouth like the mad dog. Vomiting is very common and often persistent at this stage of the disease, the vomited matter usually being green in character and containing much bile. During this stage of the disease delirium and mania often occur. The delirium is marked by paroxysms, the patient often throwing himself out of bed when not restrained. They often attempt to do themselves or attendants bodily harm, frequently attempting to bite those who have them in charge. During the intervals the patient often returns to consciousness and feels great anxiety for the safety of those around him and begs to be restrained from doing them bodily harm; the duration of this stage is from forty to eighty hours.

The third and last stage is the paralytic stage. During this stage the convulsive attacks, with the attendant mental symptoms usually abate a paralytic condition taking their place, and the patient sinks rapidly to the end, death being produced by exhaustion. Coma often precedes death. This paralytic stage exists from the beginning in a very limited number of cases. In these cases the convulsive attacks, the excitement and delirium, and the hydrophobic spasms are entirely wanting, and we have typical paralytic rabies from the beginning. This type of the disease is especially likely to follow where the lacerations from the bite are very extensive and the amount of virus very large, but such cases are very rare. Death from hydrophobia usually occurs between the second and fifty days, rarely the patient may survive eight or nine days.

With reference to the treatment of rabies, less can be said favorably than about almost any other disease. Once the malady has declared itself the treatment is purely palliative.

and directed to relieving as far as possible the suffering of the patient. The efforts of the physician must be directed toward lessening of the paroxysms and preserving the strength. All sources of annoyance both mental and physical should be removed. The room should be darkened, warm and quiet. Only the necessary attendants and physician should be allowed into the room. As is the custom with many other diseases of allowing the friends to promiscuously see and handle the patient, it should be strictly prohibited in this malady. The reasons for enforcing such rules are too obvious to need mention.

The diet should be concentrated liquid food. Osler advises the application of cocaine to the lips to facilitate the taking of liquids. The list of drugs which have been recommended is a long one, but none of them have any specific value. Hypodermic injections of morphine and inhalations of chloroform will usually give more temporary relief than any other drugs. They should be used from the beginning of the stage of violence and no time lost by giving the milder antispasmodics.

In preventive treatment we can do much more than in curative treatment. The invariable rule must be to cauterize the wound immediately and thoroughly, and to remove by suction or otherwise if possible the virus from the wound to prevent its absorption. Open the wound freely so that every portion of the laceration can be reached. Bath the wound freely with warm water. If the wound is on the limb a ligature may be placed quickly around the limb above the site of the injury. To cauterize the wound use fuming nitric acid. It must be applied freely to every part of the injury. In the absence of nitric acid use lunar caustic, the actual cautery or the strongest of antiseptics.

The importance of early and thorough cauterization cannot be overestimated. It is believed, however, from experimental use that a certain per cent. of cases may be saved by freely cauterizing after a lapse of 24 hours, but these chances should never be taken.

For the Pasteur treatment of patients bitten by rabid animals, I will say just a few words. As to the preparation of the virus for this method of treatment, it is done by continuous inoculation of the rabbit to a certain point in its life, then the

spinal cord is used in making up virus used in his treatment. As practiced today in the Pasteur Institute in Paris the treatment is modified according to the urgency of the case. They have what is known as the simple treatment, lasting for fifteen days, where the bites are slight; the ordinary treatment lasting over 18 days for cases where the bite is on the hands or limbs, and an extensive treatment which requires 21 days or more when the bites are about the head or face and are quite extensive.

The Pasteur treatment should always be begun as early after the bite as possible. It is absolutely useless after the symptoms have declared themselves. Those cases which receive the initial treatment within one week after the bite are safest from the disease, although the larger per cent. of cases in which treatment is begun within twenty days after the bite will receive immunity. We have no statistics to show how long immunity lasts in man after this treatment. Experiments on dogs show they are immune from one to five years, but whenever a person is bitten the second time by a rabid animal he should at once receive the treatment again.

I would like to say that rabies is thoroughly preventable, and that by the most simple manner imaginable—I refer to the muzzling of the dog—this has been done in many countries with the most gratifying results, and only when people think too much of their dogs is it not done.

Before closing I would like to make mention of the work done at the Pasteur Institute at Chicago beginning with the year 1890, and continuing to 1910. There were 4,110 patients treated with eight deaths, or .19 per cent. of the whole number. The treatment there is identical with that followed in the Pasteur Institute in Paris, France.

I would also make mention of two cases treated by myself here at home. On October 10, 1910, I was called to see two children who had just been bitten by a small dog while they were playing on the street in front of their homes. The ages of the children were three and nine years. Each child had been bitten on the face. The younger child rather severely, the older one slightly. The dog was at once killed and the brain examined by Dr. Vernon Robin, who found the unmistakable evidence of rabies. I at once telegraphed the Depart-

ment of Health of the City of New York to furnish me the Pasteur treatment for the two children, and I would say just here, if you should ever have occasion to call on this department for the treatment, specify in your telegram the exact location and nature of the injury, when received and the age of the patient; send communication to Dr. Poor, Superintendent Research Laboratory, Health Department, City of New York.

On the second day after I had telegraphed, the first consignment reached me by special delivery mail. I gave the first treatment on the day of its arrival. The treatment continued to arrive promptly each day of twenty-seven consecutive days, and I administered it as promptly as it arrived, the dose ranging from 6 c. c. to $21\frac{1}{2}$ c. c. I prefer injecting the serum subcutaneously over the abdominal muscles, never going too deep into the muscles. There were no unfavorable symptoms in either case, except a slight elevation of temperature together with a little rash in one case, resembling somewhat urticaria. It has now been six months since the treatment was completed and the children have both remained in apparently good health.

At the same time these children were bitten and by the same dog it was thought, another child, age twelve years, was bitten. From some reason this child received no treatment, except to cauterize the wound, which was done by a practical nurse. In the third or fourth week after the injury the child was seized with hydrophobia and died. I did not see the child, but talked with the physicians who had the case in charge, and there seems to have been no doubt as to the nature of the disease. I only mention these cases to illustrate that Pasteur treatment may be carried out successfully here as well as at the Pasteur Institute provided we can get the treatment furnished us fresh each day.

In a case of known or suspected visceral carcinoma, the finding of small nodules in or just beneath the skin is of vast diagnostic and prognostic importance. If an excised nodule is shown to be cancerous this will at once establish both the diagnosis and the futility of operation. In cases of intra-abdominal carcinoma these superficial metastases are curiously, most often found in the skin to the left of and below the umbilicus.—*Am. Jour. of Surg.*

Selected Article

STOMACH DISORDERS REQUIRING SURGICAL INTERVENTION FROM THE VIEWPOINT OF AN INTERNIST.

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A new era of surgery commenced with Billroth's first successful resection of the stomach for cancer of the pylorus and with the introduction of Woelfler's gastroenterostomy. Since then the results of these operative methods have continued to improve, due to the better technique and to experience derived from both success and failure. Important in this connection is also the fact that the diagnosis of gastric disorders has become more accurate than ever before. Statistics on surgery of the stomach may be utilized only with great care, because the operative results of twenty years ago cannot be in any way contrasted with those of the last few. Operations upon the stomach are performed by surgeons who are often as impulsive as they are competent. The results of a gastroenterostomy following a benign stenosis of the pylorus are so good that some surgeons are led to believe that all cases of indigestion which have resisted medicinal treatment require an exploratory incision. They forget that venous congestion of the gastric mucosa caused by a derangement of the heart, lung, liver and kidney will give severe digestive symptoms, and an exploratory incision without due deliberation may do more harm than good. Surgery is not a "cure all" for stomach diseases as some of our operators would lead us to believe.

During the past ten years the operation of gastroenterostomy has become almost a fad, and in some quarters the opinion seems to prevail that this radical operation is a panacea for each and every form of indigestion. That experience, however, has not warranted this extreme idea is emphasized in an article in the *American Journal of the Medical Sciences* for May, 1910, in which Deaver, while insisting that gastroenterostomy

is, when properly indicated, one of the most valuable of surgical procedures, warns against its indiscriminate use, especially in cases of the various forms of gastric neurosis. There is no class of patients more anxious to undergo operations than the neurotic, especially when the neurasthenia has taken upon itself the symptoms of indigestion and abdominal pain or discomfort. There are many sad instances of men and women, often themselves members of the medical profession, who are traveling from one gastric surgeon to another, pleading with each to open the abdomen and to change the course of the alimentary tract that their sufferings may be relieved. In such cases operation is of course to be condemned, and its results, as Deaver says, are nothing short of a catastrophe. This warning is thoroughly timely, and coming from a man with an established reputation as an abdominal surgeon carries no small weight. In discriminate operating has done more harm to the advancement of stomach surgery than we realize. It is the internist who has to deal with the case after the surgeon has discharged the patient as cured. Some of these patients make sorry looking individuals, and yet we acquiesce without a word of warning and practically agree to this sacrifice to experimentation. How absurd to accept unchallenged the assertion that most of the stomach cases coming into the hands of the internist are the beginning of carcinoma and should have exploratory incision! When surgical intervention is rationally indicated, there is no class of cases in which success is as gratifying; but, taken as a whole, less than two per cent. of stomach cases require surgery. The most frequent condition that demands surgery is obstruction of the pylorus. In this condition gastric retention is extreme. In severe cases there is found in the morning in the fasting stomach food that has been taken the night before, and there may be as much as four pints of food-stuff found in the stomach. The stomach endeavors to compensate for the pyloric obstruction by increased muscular effort. This brings about an hypertrophy of the organ, which is soon followed by dilatation. Dilatation is almost invariably present where there is a stenosis of the pylorus.

Before operative treatment of the stomach is advised, a number of factors should be taken into consideration. The most important factors to be considered are the general condition

of the patient, both indicating the condition of the vascular system and his power of resistance. The age of the patient is important. Although it must be admitted that young people undergo a serious surgical ordeal with better success than older ones, no definite lines of age can be drawn. In grave cardiac affections, in diabetes, Bright's disease, etc., operations on the stomach are usually contraindicated.

The simplest operation of the stomach is gastrostomy. It is indicated in impermeable strictures of the œsophagus, for the removal of foreign bodies situated so low down in the œsophagus as to make their removal from above impossible, and for the removal of foreign bodies in the stomach.

In carcinomatous strictures of the œsophagus or of the cardia, gastrostomy is a thankless operation and should be undertaken only when the stenosed part is impassable even for fluids. In such cases the first step should be to administer small doses of morphine throughout the day, and to replace feeding by mouth by rectal alimentation for several days, as it is not an uncommon occurrence under this treatment for the stenosed passage to become fairly passable. The benefit derived from gastrostomy undertaken for the relief of carcinoma is very limited, as it consists only in the prolongation of a none too enviable life for a few weeks or months. I am, therefore, unable to support the opinion, held by some surgeons, that it is advisable to perform gastrostomy immediately after a diagnosis of œsophageal or cardiac carcinoma.

A simple, uncomplicated gastric ulcer does not demand surgical intervention. Only in the event of complications and in the event of the ulcer defying thorough internal treatment, and impairing nutrition by interference with motility, should there be any question of surgical intervention. The fact should always be taken into consideration that in the present state of the science of diagnosis we can only have a suspicion as to the seat of the ulcer. We know that four-fifths of all gastric ulcers are situated at the lesser curvature on the posterior wall of the stomach—a surgically inaccessible place. Unless, therefore, there is a well developed ulcer of the pylorus, which has been diagnosed by the presence of retention, it is impossible to make a safe prognosis of recovery or even of improvement through surgical intervention. In some cases in which there has been

a diagnosis of ulcer of the stomach, the abdominal cavity having been opened, the ulcer has not been found, or if found adhesions or an unfavorable position of the ulcer rendered any operative measure futile.

William J. Mayo says that "nearly all the failures of surgery for ulcer of the stomach are to be found in the group of so-called clinical or medical ulcers because: (1) The ulcer is not found and many times its existence is problematic; (2) the condition is often confounded with pyloric spasm, atoniedilatation, gastropptosis, gastric neuroses, or other morbid nonsurgical conditions; (3) simple ulcer does not give rise to that mechanical interference with the progress of food which would introduce an operative indication. Internists owe a debt of gratitude to this surgeon who has had the courage to come out and plainly tell us that it is our duty as internists to bring about a recovery in simple and uncomplicated cases of gastric ulcer.

Munro, in a paper read before the Congress of Physicians and Surgeons in 1907 said, referring to the unsatisfactory results from gastroenterostomy in gastric ulcer: "It is wise to close the abdomen when there is no gross ulcer, no actual pyloric obstruction or other crippling lesion." He has learned from the observation of the results of many such cases that gastroenterostomy under those conditions is useless.

So far as surgery is available, no procedure but the removal of the ulcer by excision or gastroenterostomy is to be considered. Removal of the ulcer does not remove the cause nor the tendency to new formation, nor does it improve motility, nor reduce superacidity; but it does remove the dangers accompanying the ulcer, such as hæmorrhage, perforation, and malignant degeneration. Gastroenterostomy and favorable drainage protect the ulcer from irritation of the superacid gastric contents, and some ulcers which have defied every kind of therapy will sometimes heal or become latent after gastroenterostomy. Ulcer of the pylorus or duodenum can be cured by gastroenterostomy, but this operation will not cure ulcers in other parts of the stomach.

It is always necessary to pay special attention to the diet after stomach operations in order to achieve the most favorable results. It is certainly surprising to observe that a patient,

compelled for years to live on milk, and soups, is allowed at once to partake of roast beef and potatoes. It is an over-estimation of surgical effect to suppose that a stomach which has been seriously impaired for a number of years can suddenly develop normal function. It is irrational to allow such a patient to get out of bed after a couple of weeks and to discharge him as cured at the end of three weeks. After the operation a careful dietary should be instituted for weeks and even months if necessary. The surgeon should be assisted in the care of such convalescents by an internist trained for this purpose. This course, together with the simultaneous use of alkalies, constitute the best method of avoiding the danger of new formations, especially of ulcer of the jejunum, in which location an ulcer is apt to come as a sequela of gastro-enterostomy.

One of the most frequent complications of gastric ulcer is hæmorrhage. Acute hæmorrhage is not a condition that lends itself to surgical treatment. Such hæmorrhages can usually be stopped by internal treatment, but if this should fail, operative intervention is not likely to help. Less than five per cent. die of these hæmorrhages without operation. By subjecting patients to operation, we expose them to further dangers to which they easily succumb, while without operation they have a better chance to recover. This view is shared by a large number of experienced surgeons. At a matter of fact few cases of gastric hæmorrhages have been lost when proper therapeutic measures were instituted. With internal treatment Lenhartz reports 201 cases of gastric hæmorrhage with a mortality of three per cent., Ewald 166 cases with a mortality of 4.8 per cent., and Wirsberg reports 320 cases with a mortality of 5.9 per cent. Robson, resorting to operative treatment in forty-five cases of acute hæmorrhage, saved fifteen; without operation he would probably have saved forty. The ligation of the coronary arteries which supply the ulcer is not to be endorsed, because the results achieved without surgical intervention are better.

What is our position as to the treatment of ulcers, which, characterized by chronic oozing of blood, lead to grave anæmia? If energetic internal treatment should not be successful, as can easily be observed by daily examination of the fæces with

the benzidin test for occult blood, operative treatment should be advised. Either resection of the ulcer or, where this is impossible, gastroenterostomy should be done. The latter operation frequently stops the hæmorrhage, especially if the ulcer is situated at the pylorus. In the case of pyloric ulcer it is not the hæmorrhage but the stenosis which renders operation necessary. In cases which do not improve after a prolonged course of internal treatment and in which pyloric obstruction is not present, it is unwise to promise a recovery by a gastroenterostomy. Surgeons agree that good results in ulcer of the stomach by gastroenterostomy are obtained only when there is a pyloric obstruction. Gastroenterostomy does not give drainage and physiological rest when the pylorus is patulous. Cannon and Murphy have shown that food and liquids pass through the pylorus even after gastroenterostomy has been performed. The artificial opening does not help matters so long as the pylorus is unobstructed.

Another dangerous complication of gastric ulcer is perforation into the free abdominal cavity, followed by peritonitis or a subphrenic abscess. This complication requires surgical intervention, and the operation should take place within ten hours after perforation, when the mortality is about twenty-eight per cent. According to figures, the mortality rises to sixty-five per cent. if the operation is delayed for more than twenty-four hours, and to eighty-seven per cent. after thirty-six hours; undertaken later, operation offers no hope. The operation may be very simple for perforation at the greater and lesser curvatures and at the anterior wall of the stomach. If the perforation has taken place at the posterior wall the operation is most difficult and usually does not do any good. Statistics in perforation show such unfavorable results by internal treatment that it seems imperative to resort at once to surgery, unless there are very important factors to contraindicate it.

Subphrenic abscess following perforation should likewise be operated on as soon as possible.

The surgically most important complication of gastric ulcer is benign pyloric stenosis with subsequent dilatation of the stomach. The diagnosis is dependent upon: The history pointing to ulcer; vomiting of a large proportion of the food in-

gested on the previous day; decreased secretion of urine; the presence of food remnants in the morning before breakfast; the chemical findings, superacidity or hyperchlorhydria; the microscopical findings, sarcinæ in the gastric contents.

Benign pyloric stenosis may be occasioned by compression of tumors of the liver, or the gallbladder, and of the pancreas, by adhesions, by true cicatricial constriction, and by spastic contraction of the pylorus.

Unless there is a critical condition, such as exhaustion, tetany or impending tetany, or uncontrollable vomiting, we should, after having arrived at the diagnosis of benign pyloric stenosis, attempt to relieve the engorgement by rational nutrition, gruels, and fluid diet, nourishing enemata, cataplasms, irrigations of the stomach, and oil therapy by mouth. Einhorn has introduced recently a pyloric dilator that should always be given a trial. If this line of treatment proves successful, the daily secretion of urine increasing to the normal, the patient showing uninterrupted improvement from week to week, with no retention even after an increased dietary, operation is not indicated, because the case is one of gastric congestion caused by a spastic stenosis and not by a cicatricial condition. If all other symptoms improve, but there are still food remnants early in the morning after enlarging the range of foods, the operation should not be delayed, particularly with patients who, from their position in life, are not able to continually confine their diet within the required limits. In cicatricial stenosis of the pylorus the results of gastroenterostomy are excellent.

Hypertrophic stenosis of the pylorus has been successfully operated on in very young children. As experience in these cases accumulates we find, however, that internal treatment is often efficient and surgical intervention usually not required. An important point to remember in this connection is that we do not know how gastroenterostomy performed upon young children will regulate itself in advancing years.

In dilatation of the stomach, resulting from atrophy of the muscular fibres when the pylorus functionates normally, operation is indicated only in exceptional cases. It should be regarded as indicated only after all internal therapy, such as irrigations of the stomach, diet, tonics, massage, electricity, hydropathic measures, have proved to be complete failures.

Congenital stenosis of the pylorus almost always responds to internal treatment, provided it is carefully followed. In rare cases only is it necessary to resort to surgery.

The differential diagnosis between atony and secondary dilatation following pyloric stenosis is frequently not easy. It depends upon the objective findings, and upon a history of ulcer manifestations. Gastric rigidity and pyloric tumor point to stenosis. If, in the absence of ulcer symptoms, a rational therapy relieves the dilatation, the latter was probably atonic. In regard to adhesions and perigastritis we are, unfortunately, able to make a diagnosis in only a very small percentage of cases. Perigastritis, unless there is a distinct disturbance of motility, is rarely a sufficient reason for surgical intervention. When firm, immovable tumors can be palpated in the epigastrium and carcinoma can be excluded, the presence of adhesions or epigastric hernia may be surmised. Adhesions may or may not interfere with the motility of the stomach. Those not interfering with its motility may be wisely let alone, for we all know that severed adhesions are likely to reform. For adhesions interfering with the motility of the stomach fibrolysin by the hypodermic method may be tried, but should this fail such cases must be turned over to the surgeon.

In hourglass stomach gastroanastomosis is the procedure to be recommended. The diagnosis of this condition is now easily made by the use of bismuth and the X-ray.

In gastropptosis surgeons have attempted to establish normal conditions through ventrofixation, by shortening the gastrocolic and gastroduodenal ligaments and gathering the mesocolon. My experience has taught me to withhold my approval of these procedures, because I have seen so many cases in which such measures have created new troubles without removing the old. In my opinion gastropptosis should be treated altogether by mechanical, dietetic, physical, and medicinal methods. The most rational method of treatment in cases where the ptosis has caused a kink at the pylorus or duodenum seems to be gastroenterostomy.

Carcinoma of the stomach, when diagnosticated early, should be operated on at once. Even if the diagnosis is doubtful no harm is done in the hands of a good operator. However, indiscriminate exploratory incision is apt to bring disrepute to

surgeons and no calculable benefit to the patient.

It is not surprising that among the alarmingly large number of gastric cancer cases we have only a few isolated cases of cure reported? The reason has been correctly stated that we resort to operation when it is too late, and, therefore, surgeons reiterate the great necessity for an early diagnosis of carcinoma. What is an early diagnosis? It is a diagnosis of carcinoma during the stage when the condition is still circumscribed and when metastasis has not taken place. At this time radical operation is possible. A diagnosis of cancer in a very early stage of its growth can rarely be made. I might cite a number of cases demonstrating that we are far from being able to make a sure diagnosis, let alone an early diagnosis, even with the aid of an exploratory laparotomy. It may happen, as I have personally seen, that operation is performed at a very early stage—at the time of the first manifestations of the disease—with no tumor palpable, and that at the operation metastases both small and large were found, but no primary tumor. I have even had exploratory incision made in suspected cases of cancer of the stomach where no lesions were found, yet carcinoma with all its manifestations continued to develop, and subsequently proved fatal to the patient. On the other hand, there may be an occasional case with a large and apparently inoperable tumor, and at autopsy it is discovered that there are no metastases and the tumor could have been removed without difficulty.

Findings, which are supposed to be a safe guide for the early recognition of carcinoma are very misleading. Great importance is to be attached to the history, whether there was a diagnosis of gastric ulcer, gastritis, cholelithiasis, or whether the affection has developed insidiously. Loss of appetite, repugnance to food, eructation, vomiting, debility, decrease in weight are points to be considered. There should be repeated examinations of the entire body and a study of the gastric functions, including tests for the absence or deficiency of hydrochloric acid, presence of lactic acid, and blood. The microscopical examination of the stomach contents should not be omitted. Especial attention should be paid to disturbed motility, to the presence of food remnants in the stomach, and the recognition of occult blood in the feces. I consider retention the most im-

portant symptom and the most important indication for immediate operation where there is the slightest suspicion of carcinoma. The examination of the contents of the stomach after a long continued fluid diet is not sufficient. The gastric contents should be examined after the patient has partaken for one or two days of a diet difficult of digestion, containing such foods as apples, plums, currants, cherries and sausage. If after feeding the patient on such food a gastric retention is found on examination of the stomach contents, made before breakfast, interference with motility is certain.

The secretion of hydrochloric acid and pepsin is usually decreased as the carcinoma develops, and in an advanced stage of the disease is inhibited altogether, except in carcinoma developing from gastric ulcer, when ever superacidity may exist. The presence or absence of hydrochloric acid is of value only in connection with all the other symptoms and findings. The presence of lactic acid is not a specific sign for carcinoma. I have found lactic acid without any carcinoma being present, and, again, I have not infrequently missed it in the presence of carcinoma. There is no doubt that its presence distinctly points to carcinoma, but not invariably so. When hydrochloric acid is present, this excludes lactic acid, for where there is hydrochloric acid there is no lactic.

Some surgeons have formulated a demand for an exploratory laparotomy in every case in which the diagnosis is in the least doubtful. One surgeon says in speaking of early diagnosis of cancer: "This cannot be done on the present date of our knowledge save by timely exploratory laparotomy. Other means at our command are wholly inadequate, and to depend on them further is needlessly to sacrifice many, I may say thousands, who might be easily saved." Just such assertions as these from prominent surgeons induce indiscriminate surgery. The number of cases we should have to submit to laparotomy to no purpose would be very large were we to satisfy the demands of these surgeons and perform an immediate exploratory operation in all doubtful cases. Moreover, this is much easier said than done. Patients complain of comparatively little trouble which may be occasioned by an incipient carcinoma, or equally as well by a neurosis, gastritis, erosion, ulcer, gastroposis, cholelithiasis, or by disturbed gastric function

originating in disorders of remote organs. When we recall that two-thirds of all chronic diseases of the stomach belong to the type of the neuroses or functional disorders, we can readily understand why the internist hesitates when the surgeon demands exploratory incision. Considering all the points of the examination, careful observation and in some cases rational internal treatment are required in order to form an opinion. The procedures necessary for making a positive diagnosis in some cases are beset with difficulties, because patients usually object to frequent and detailed examinations and for that reason may not return. If the ailment has a tendency to exacerbate, all the attempts to stimulate the appetite failing, if vomiting refuses to be controlled, and the body weight does not show an increase, suspicion may well concentrate upon carcinoma, and we are obliged to advise an exploratory laparotomy, even if no tumor is palpable. If, on the other hand, there is an increase in the weight of one or two pounds every week, should the appetite reassert itself and the patient's appearance and sensation of well being improve, if the unfavorable symptoms decrease, particularly the amount of hydrochloric acid increasing, we may in most cases exclude the diagnosis of carcinoma. With all possible precaution mistaken diagnosis cannot altogether be avoided.

It must further be admitted that while exploratory is no longer a serious operation, it is not free from danger. If we advise exploratory laparotomy in the presence of slight manifestations, we may take it for granted that in the majority of cases patients will not submit, and if after such refusal a course of internal treatment is instituted and the patients recover, we shall subject ourselves to many unjust reproaches. An important point to remember is that upon examining an opened stomach, it may be very difficult for the surgeon to interpret correctly the traces of a possible old ulcer or other finding. What he may judge to be benign frequently proves to be malignant, and what seems to him malignant may simply be benign.

Carcinoma at the fundus and body of the stomach generally manifests itself only at a time so late in its development that radical operation can offer little hope. Successful resection can only be hoped for in carcinoma of the pylorus and of the

lesser curvature, the latter encroaching upon the pylorus at an early stage. These cases constitute about fifty per cent. of gastric cancer. Where resection is possible it should always be done. The size of the tumor is no contraindication so long as the stomach is large.

An important question to consider is whether an operation is justified in cancer when there are metastases, but the tumor can still be removed; and whether in such a case gastroenterostomy should be the chosen operation. Though the results of gastroenterostomy in benign cases of pyloric stenosis are good they are sadly deficient in cancer, exceptional cases to the contrary notwithstanding. The average success with a gastroenterostomy in cancer is the prolongation of life for six months. Experience shows that resection gives better results. In cases with slight metastases resection should be given the preference if possible over gastroenterostomy. With the present improved technique it is possible to perform a complete resection in from one to one and a half hours.

Gastroenterostomy is only indicated in pyloric carcinoma with retention where resection is no longer possible. If there is the slightest doubt as to the benign character of the pyloric stenosis, resection of the pylorus is indicated. The mortality for resection, according to statistics of various prominent surgeons, is between six and twenty-eight per cent., or an average of seventeen per cent. The average duration of life after a resection is from sixteen to eighteen months. Mayo reports five patients alive and healthy for more than three years after operation.—*New York Medical Journal*.

In "clean" surgical cases a rise of temperature to even no more than 99.5 degrees or 100 degrees, during convalescence after operation, always means something—it may be only serous retention.—*American Journal of Surgery*.

A psoas abscess occasionally points in the outer part of the groin (i. e., close to the anterior spine of the ilium). When there is no evident spinal deformity to suggest the swelling is apt to be mistaken for a growth.—*American Journal of Surgery*.

Recent Progress in Medical Science

THE TREATMENT OF COUGH.

F. M. Class, New York (Journal A. M. A., May 20), discusses the treatment of the troublesome symptom of cough in consumption, of which, he says, every variety is capable of definite relief though this is seldom properly given except by those specially skilled. In the early stages of the disease, the chief complaint is of coughing on arising in the morning and here practitioners err in starting their sedative treatment too soon. Unless inordinate, or followed by exhaustion or retching, the cough is probably beneficial rather than otherwise and it is better to save weapons of offense until they are more needed later. Retching is often due to excessive pharyngeal mucus and a simple gargle, kept beside the bed and used on waking, will often be a sufficient remedy. A simple boric acid gargle with a very small amount of phenol is given and recommended. Sometimes a comfortable temperature in the room is of advantage. Mental suggestion may have something to do with causing the cough and the will to check the cough may sometimes be better than the prescription. Carefully regulated breathing, exercise, etc., are useful aids. For the causes of the constant dry nagging cough, lasting off and on all day, a careful systematic search should be made in the nares, pharynx, and larynx. A long uvula is the prime offender and is often overlooked though mentioned in the standard books. Its amputation then will check the cough. Large turbinates, adenoids, enlarged tonsils and ulcers of the larynx need appropriate treatment. Occasionally cough appears to be due to fever and ceases with the lowering of the temperature, and in such cases rest in bed will be the remedy. It is remarkable also how much trouble a small patch of pleuritis may give and a mild counter-irritant or strapping the chest is sometimes efficient. The actual cautery in the subclavicular region, an old remedy not much used, has been sometimes effective in the past. Painting the nasopharynx every day or two with iodine or potassium iodide solution has been suggested to check excessive secretion in the nasopharynx. Often no obvious local

cause can be found and here suitable occupation and stimulation of mental interests should be tried, and this can be carried out exceptionally well in sanatoriums. Another distinct type of cough occurs after eating and is probably reflexly caused by the dilation and sudden activities of the stomach walls and it is best treated by small and more frequent meals. Sudden changes of temperature such as leaving a warm room sometimes cause aggregated coughing and a more gradual change or protecting the lungs with a handkerchief over the mouth may sometimes prevent the attack. Occupation should be looked after and one will be surprised sometimes to find how many patients have followed or are following some dusty occupation. Even any simple change of occupation may be beneficial. There remain to be considered two other types of common cough, depending sometimes on the amount of expectoration, sometimes on its quality, and for these drug therapy would seem to be indicated. We should approach these methods however with caution. Nauseant expectorants will do harm by interfering with digestion and appetite. Cough palliatives, including opiates, are allowable only to procure sleep then cough prevents it or causes over-fatigue. Inhalation methods are mentioned with commendation. The use of the perforated inhaler with some combination in solution of creosote or formaldehyde solutions with chloroform or menthol are mentioned. Creosote used internally must be watched with great care since it is liable to upset the stomach and guaiacol may be found milder and safer. Among other things Kuhn's suction mask is mentioned. Care must be taken not to dry up secretions so much that they are not easily got rid of. In the terminal hopeless stage free use of morphine seems imperative. Heroin may be effective for a time but its usefulness is shortlived.

MISTAKEN DIAGNOSIS.

Basing his observations upon an analysis of 1,000 autopsies and a comparison with a clinical findings, Cabot, (J. A. M. A., Oct. 15) concludes with the following maxims:

"1. Never make a diagnosis of uremia in a patient seen

for the first time in an acute illness characterized by coma or convulsions. Such diagnoses rarely turn out right.

“2. Never make a diagnosis of ptomaine poisoning without definite chemical evidence. General peritonitis or a tabetic crisis is usually the correct diagnosis.

“3. Make no diagnosis of hysteria, neurasthenia or psychoneurosis in a patient whose symptoms begin after the forty-fifth year. The actual diagnosis is likely to be arteriosclerosis, hyperthyroidism, dementia paralytica or pernicious anemia.

“4. Diagnoses of tertian malaria in patients whose symptoms resist quinine more than three days are almost invariably wrong.

“5. Bronchial asthma beginning after forty usually spells heart or kidney disease.

“6. Epilepsy beginning after forty usually means dementia paralytica or cerebral arteriosclerosis.

“7. Typical migraine is often a symptom of unrecognized brain tumor or chronic nephritis.

“8. Most cases of ‘bronchitis’ mean tuberculosis, bronchopneumonia or multiple bronchiectatic cavities.

“9. Aside from the immediate results of acute infections (such as scarlet fever, diphtheria, tonsillitis and pneumonia). acute nephritis usually turns out to be chronic.

“10. Acute gastritis and gastralgia usually mean appendicitis, gall-stones or peptic ulcer.

“11. Pus in or near the liver is often mistaken for serous or purulent pleurisy, for it produces identical signs in the right chest posteriorly.

“12. An X-ray of the shin bone may give the first hint of an active syphilitic process in the joints or internal viscera.

“13. Systolic or presystolic murmurs, heard best at the apex of a markedly enlarged heart, rarely mean valve lesions.

“14. Diastolic murmurs at the base of the heart are very uncertain evidence of aortic disease unless there are characteristic jerks in the peripheral arteries.

“15. Myocarditis is a diagnosis which should never be made clinically.

“16. Besides the direct evidence afforded by the history and the various methods of physical and chemical examina-

tion, diagnosis profits much by taking account of certain familiar pathologic chains or groups of them. Given one or two members of the group, it is often wise to act as if the others were present, provided, of course, that the direct evidence in no way contradicts us.

“17. Cerebral localization applied to tumors, hemorrhages and the like, is still in its infancy.

“18. The clinical diagnosis of the so-called diseases of the blood is the easiest and safest in medicine.”

BLOOD-VESSEL ANASTOMOSIS.

The use of magnesium rings for blood-vessel end-to-end anastomosis is described by V. D. Lespinasse, G. Carl Fisher and J. Eisenstaedt, Chicago (Journal A. M. A., Nov. 19). They first describe the physical qualities of magnesium, especially its solubility in saline fluids and the body fluids and the non-toxic character of the products, and then describe the technic. This requires the illustrations for its perfect understanding, but several methods are employed, each of which is described. The method of repair of a longitudinal slit in a blood-vessel is also described. The period in which the magnesium rings are absorbed varies from 80 to 100 days for complete absorption. There is nothing inside the lumen of the vessels after the operation is completed, and if trauma to the intima is avoided and the vessel washed free from all clots and not tied tightly enough so that the rings cut the intima where it bends outward to form the flange, thrombosis will not occur. Secondary thrombosis, such as occurs in the Payr operation, is impossible. Primary stricture cannot occur if the vessel is accurately measured and a proper sized ring is at hand with which to make the anastomosis. Secondary stricture has never occurred in any of the experimental operations. Primary hemorrhage could not occur and there is no danger of embolus unless there is thrombosis. Hence to avoid embolus avoid thrombosis. The following principles, the authors say, must be kept in mind in making blood-vessel anastomosis with magnesium rings: “1. The vessel must be accurately and cleanly

dissected. 2. All wound hemorrhage and oozing must be checked. 3. All clots must be removed from the ends of the blood-vessel. 4. A proper sized ring must be used. 5. The rings must be tied together under more than six-pound pressure. 6. Traumatism to the intima behind the line of union must be avoided absolutely. 7. Gentleness and accuracy in all manipulations is absolutely essential. 8. Perfect asepsis must be maintained." The authors believe that the operation is well within the skill of the average surgeon, is safe, certain and easy, and should be done in all wounds of the large vessels, both venous and arterial, and in all false aneurisms and arterio-venous aneurisms. Under these conditions, a short piece of vessel, including the lesion, can be removed and an end-to-end anastomosis made. The article is fully illustrated.

An hypertrophied prostate in which nodules can be felt per rectum is carcinomatous.

THE USE OF THIOSINAMIN IN THE TREATMENT OF CICATRICAL FORMATIONS FOLLOWING BURNS.

J. Ewing Mears, Philadelphia, Pa., gives a report (*Med. Rec.*, Nov. 19, 1910) of a case of extensive burn of the arm in which an extensive cicatrical growth was left. This was treated with thiosinamin internally and locally to produce absorption of the unsightly, bluish mass. After more than a year of treatment the mass is reduced to the level of the skin, and has lost the bluish color. The drug causes a hyperleucocytosis, with marked destruction of the cicatricial and poorly nourished tissues, and absorption of exudates.

REMOVAL OF ADHESIVE PLASTER.

E. J. G. Beardsley, Philadelphia (*Journal A. M. A.*, January 28), mentions the difficulty often experienced and the pain and discomfort to the patient in the removal of adhesive plaster, especially over hairy parts. He accidentally discovered that oil of wintergreen applied directly to the plaster spreads throughout the adhesive materia and causes it to come away readily and painlessly. When extensive areas are to be removed the application of an ointment of *adepislanæ hydrosus*, with 10 per cent. of oil of wintergreen incorporated, is even more useful than the oil alone.

Book Reviews

MEDICAL JURISPRUDENCE, FORENSIC MEDICINE AND TOXICOLOGY;
By R. A. Witthaus, A. M., M. D., and Tracy C. Becker, A. B.,
L. L. B. Second Edition. Volume IV. Toxicology. Octavo
Volume, 1261 pages, illustrated. Sold by subscription, with
volumes one to three. Muslin, the set, \$24.00; law sheep,
\$28.00. Sold separately; Muslin, \$7.00; Brown Sheep,
\$8.00. William Wood and Company, New York, 1911.

This the fourth volume of a very comprehensive work, and is devoted to the science of poisons, a subject of interest to physicians, chemists and lawyers. The subject matter of this 1261 paged volume is too vast to here admit of more than an outline of its scope. It is handled in the following order: First, there is a Table of Cases, giving references by page to the cases quoted in this book. Then, next, an introductory article, Historical and Bibliographical. Following this is section devoted to General Toxicology. The major part of the book is devoted to Special Toxicology. In this section the individual toxic agents, classified into: Mineral Poisons; Metallic Poisons; Vegetable Poisons; Animal Poisons, and Synthetic Poisons are each considered at length. The footnotes are very numerous. The references contained in them have all been personally verified by the author, and give the original source of every quotation in the text. A very large Index concludes the volume.

THE PRACTICAL MEDICINE SERIES; Comprising Ten Volumes of
the Year's Progress in Medical and Surgery. Under the
General Editorial charge of Gustave P. Head, M. D., and
Charles L. Mix, M. D., Volume II. General Surgery. Series
1911. The Year Book Publishers, Chicago. Cloth. Pages,
611, illustrated. Price, \$2.00. Price of the series of ten
volumes, \$10.00.

The series are issued at about monthly intervals and covers the entire field of medical and surgical progress. Each volume being complete for the year prior to its publication on the subject of which it treats. Although the publishers have intended the series for the general practitioner, the arrangement in

volumes enables those interested in special subjects to buy only the parts devoted to their special line of work.

This volume is an abridged account of surgical literature of the year just passed. It has evidently been very carefully compiled and sustains the standard set by the previous surgical volumes. It will be appreciated by surgeons who wish to be kept informed of the newer improved instruments and methods of procedure. There are 33 plates and 196 illustrations. The index of authors and subjects is complete.

HEALTH HINTS AND HEALTH TALKS; By E. R. Pritchard. The Reilly & Britton Company, Chicago. 1911. Cloth. Pages, 153. Price, 50 cents net.

This little book consists of a series of short essays on Health and its preservation and is written in plain and simple language. These "Hints" and "Talks" were originally published in newspaper form as a part of the Educational and Publicity work of the Chicago Department of Health.

TRANSACTIONS OF THE FOURTH INTERNATIONAL SANITARY CONFERENCE OF THE AMERICAN REPUBLICS, held in San Jose, Costa Rica, December 25, 1909, to January 3, 1910. Published and distributed under the auspices of the Pan-American Union, John Barrett, Director-General, D. C., 1910.

The Pan-American Union is an institution devoted to the development of country and cominmerce among American nations and acts incidentally as the office of ethe International Sanitary Bureau. It has issued this volume, which contains the transactions of the International Sanitary Conference. Among the subjects discussed were sanitation of cities and ports, sanitary measures relating to yellow fever, bubonic plague, malaria and venereal diseases.

A HANDBOOK OF INTESTINAL SURGERY; By Leonard A. Bidwell, F. R. C. S., Surgeon West London Hospital, Lecturer on Intestinal Surgery, etc. Second edition. Pages, 215, illustrated. William Wood and Company, New York, 1911.

This little volume aims at giving such a precise description of the commoner intestinal sutures that an inexperienced surgeon

may readily practice the various methods on dead intestines before performing an anastomosis on the living subject.

The illustrations are numerous and clear and will aid the student to a clear understanding of the different methods described.

The last two chapters are on the preparation before and treatment after abdominal operations.

DISEASE IN BONE; By Edward W. H. Shenton, M. R. C. S. Pages, 72, with illustrations. Cloth, \$1.60 net. The Macmillan and Company, New York and London, 1911.

In this small book are considered certain bone diseases with special reference to their detection by the X-Rays, in the following order: Inflammation in Bone, Tubercular Disease, Osteo-Arthritis, Growth in Bone and Osteo-Malacia.

The author records facts, deduced from his rodiographic experience, which he regards fundamental in diagnosis and not generally known. Half the book is given to illustrations, forty-six in number and "from purely unfaked" photographs.

GONORRHEA IN THE MALE. A Practical Guide in its Treatment: By Abr. L. Wolborst, M. D. Cloth. Pages, 181. The International Journal of Surgery Company, New York, 1911.

This little book is not a text-book—but a guide to the diagnosis and treatment of gonorrhea in the male. It offers the general practitioner a working knowledge of the disease and a practical method of treating it successfully without the use of complicated and expensive instruments. Its teachings are based entirely upon the large personal experience of the author in private and hospital practice. He urges greater gentleness and conservation in the use of instruments and drugs than is generally employed in the prevalent method of treatment. The book is illustrated.

TRANSACTIONS OF THE COLLEGE PHYSICIANS. Third Series. Volume XXXII. Cloth. Pages, 442. Philadelphia, 1910.

The present volume of Transactions contains the papers read before the college from January, 1910, to December, 1910, inclusive. Among these appear the following: A Clinical Study of the Cammidge Reaction in the Urine, by John M.

Swan, M. D., and John J. Gilbride, M. D.; Operations for Brain Tumors, by William G. Spiller, M. D.; The Difference Between Systolic Pressure in the Arm and in the Leg in Aortic Regurgitation, by H. A. Hare, M. D.; Practical Treatment, by John H. Musser, M. D.; Post-Operative Psychoses, by J. G. Mumford, M. D.; The Diagnosis of Post-Operative Insanity, by John Chalmers DeCosta, M. D.; Dehydration by Dietetic Measures, by A. Magnus-Levy, M. D.; Paroxysmal Pulmonary Edema and its Treatment, by Alfred Stengel, M. D.; On the Surgical Treatment of Paralytic Talipes, by Astley P. C. Ashurst, M. D.

The volume is edited by Dr. William Zentmayer.

LITORA ALIENA; From the Boston Medical and Surgical Journal. Octavo, 78 pages. Price, 50 cents. W. M. Leonard, Publisher, Boston, 1911.

This is a series of letters sent to the Boston Medical and Surgical Journal by one of its editors during a recent European trip.

These letters present scenes and interests as they appear and appeal to a physician and contain much of that rarity in medical literature, reading that is both entertaining and instructive.

ACKNOWLEDGMENTS.

1,000 SURGICAL SUGGESTIONS; By Walter M. Brickner, B. S., M. D., Adjunct Surgeon Mt. Sinai Hospital, with Collaborations of Eli Mosechovitz, M. D.; James P. Warbasse, M. D.; Harold Hays, M. D., and Harold Neuhoof., M. D. Fourth American Edition. Pages, 225. Cloth. Bound Semi-de Luxe, \$1.00. Full de Luxe Leather, \$2.25. Surgery Publishing Co., New York, 1911.

GOLDEN RULES OF PEDIATRICS; By John Zuhorsky, A. B., M. D., Clinical Professor of Pediatrics, Washington University. Cloth. Pages, 284. Price, \$2.50. C. V. Mosby Company, St. Louis, 1911.

TUBERCULOSIS AS A DISEASE OF THE MASSES AND HOW TO COM-

- BAT IT. International Prize Essay; By S. Adolphus Knopf, M. D. Pages, 124. The Survey, New York, 1911.
- HYGIENE OF PREGNANCY; By E. S. Harris, M. D. Paper. Pages, 28. Price, 10 cents.
- DIGEST OF COMMENTS ON THE PHARMACOPOEIA AND THE NATIONAL FORMULARY. Treasury Department. Bulletin No. 75. Pages, 564. Washington, 1911.
- TWENTY-SECOND ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF FLORIDA. Jacksonville, Florida, 1911.
- HOOKWORM DISEASE; Prepared under the direction of State Board of Health of Florida by Dr. Hiram Byrd.
- PREVENTION OF HEMORRHAGE IN PULMONARY TUBERCULOSIS BY THE ADMINISTRATION OF AUTOGENOUS VACCINES; By Roswell T. Pettit, B. S., Ottawa, Ill. Reprint.
- STUDIES UPON PLAGUE IN GROUND SQUIRRELS. A PLAGUE-LIKE DISEASE OF ROBERTS; By George W. McCoy, Treasury Department. Public Health Bulletin No. 43. Washington, 1911.
- THE PERSONAL OR BUSINESS SIDE OF A DOCTOR'S LIFE; By J. MacDonald, Jr., M. D., New York. Reprint.
- CHORREA (ST. VITUS' DANCE); By John Aulde, M. D., Philadelphia. Reprint.
- ACUTE ANTERIOR POLYOMYELITIS; By Wade H. Frost, Treasury Department. Public Health Bulletin No. 44. Washington, 1911.
- DIGITALIS STANDARIZATION AND THE VARIABILITY OF CRUDE AND OF MEDICINAL PREPARATIONS; By Worth Hale, Treasury Department. Hygienic Laboratory Bulletin No. 74. Washington, 1911.
- SOME PHASES OF ASTHENOPSIA; By D. Wright H. Hunter, M. D., New York. Reprint.
- SUBCUTANEOUS RESECTION FOR THE CORRECTION OF SEPTUM DEFLECTIONS, WITH A DESCRIPTION OF THE AUTHOR'S SPECIAL INSTRUMENTS; By Myron Metzenbaum, M. D., Cleveland. Reprint.
- THE EFFECTS OF A NUMBER OF DERIVATIVES OF CHOLINE AND ANALOGOUS COMPOUNDS ON THE BLOOD PRESSURE; By Reid Hunt and R. de M. Tavean, Treasury Department. Hygiene Laboratory Bulletin No. 73. Washington, 1911.

SMALL POX AND VACCINATION IN THE PHILIPPINE ISLANDS; By Victor G. Heiser and Robert Oleson, Treasury Department. Washington, 1911.

THE VALUE OF PHENOL SULPHONETHALEIN IN ESTIMATING THE FUNCTIONAL EFFICIENCY OF THE KIDNEYS; By Chas. Goodman, M. D., and Leo Kristeller, Ph. D., New York. Reprint.

HYOSCINE HYDROBROMIDE AS AN ADJUNCT TO COCAIN ANESTHESIA AND AS A PREVENTIVE TO COCAINE POISONING; By Myron Metzbaum, M. D., Cleveland. Reprint.

THE TYPHOID BACILLUS CARRIER. A REVIEW; By R. M. Grimm, Treasury Department. Washington, 1911.

REPORT ON AN ORIGINAL FORM OF SULPHUR BURNED FOR DISINFECTION; By N. Roberts and F. Alex. McDermott, Treasury Department. Washington, 1911.

REPORT FROM THE PATHOLOGICAL DEPARTMENT CENTRAL INDIANA HOSPITAL FOR INSANE. TWO VOLUMES. Indianapolis, 1910.

A CONTRIBUTION TO THE DIAGNOSIS OF DUODENAL ULCER.

M. Gross, New York (Med. Rec., April 22, 1910), thinks that duodenal ulcer is a common disease, more so than gastric ulcer. The characteristic symptoms are painful dyspepsia, violent attacks of "hunger-pain," regurgitation or vomiting of acid masses, lessening of symptoms after eating and alkalis, hyperchlorhydria and hypersecretion. The diagnosis is confirmed by the finding of small masses of blood floating on the duodenal contents which have been aspirated. The presence of this blood should be established by tests. Physical signs include a tender point and rigidity of the abdominal muscles to the right of the parasternal line at the level of the duodenum. Excessive hemorrhages and perforation are very rare. The author regards Einhorn's bucket and thread test as unreliable, and advocates instead the use of his duodenal tube with its little silver ball.

Miscellany

PRACTICAL GLEANINGS.

When performing lateral anastomosis after intestinal resection, make the opening reasonably near the closed ends. Long blind pouches may give trouble.

Sutures under tension will assuredly cut out for in surgery as in matrimony, an unwilling union is apt to be followed by divorce.

A sharp pain felt at the outer end of the groin upon sudden motion of the thigh, as in starting forward from a crouching position in a foot race, suggests fracture of the anterior spine of the ilium. This occurs usually in adolescents.

Carbolic acid which has turned red may be purified by adding a little alcohol and subjecting solution to a low temperature. The acid will crystallize out clear, leaving the coloring agent in the alcohol.

As part of a hernioplasty it is always worth while to reduce by sutures the hiatus in the transversalis fascia whenever this can be conveniently done.

The strain of ehrysarobin may be removed by a weak solution of sodium hydrate.

Have the tracheotomy instruments handy before operating upon a case of angina Ludovici.

Bear in mind that only one or two of the serious diseases of the kidneys is inaugurated with pain. The most fatal kidney diseases are almost painless.

Don't massage an acutely inflamed prostrate. Rest in bed, ice water rectal injections, and opium and belladonna suppositories will cure most cases.

NEWS ITEMS.

The Kentucky State Association of Railway Surgeons, at its annual meeting held in Louisville May 10, 11 and 12, elected the following officers: Dr. Charles W. Kearns, of Covington, was chosen President-elect; Dr. W. O. Bullock, of Lexington, First Vice President; Dr. D. Y. Roberts, of Louisville, Second Vice President; Dr. William Cheatham, of Louisville, Third Vice President; Dr. J. B. Kinnaird, of Lancaster, Secretary, and Dr. C. H. Vaught, of Richmond, Treasurer. Dr. Charles G. Daugherty, of Paris, who was installed as President at the beginning of the meeting, appointed Dr. J. L. Phythian, of Newport; Dr. H. C. Jasper, of Richmond, and Dr. F. M. Beard, of Shelbyville, as members of the Committee on Credentials. Dr. M. H. Dills, of Carlisle; Dr. W. E. Senour, of Bellevue, and Dr. Z. A. Thompson, of Pikerville, were appointed to the Committee on Public Health and Legislation, while Dr. W. O. Bullock, of Lexington, Mr. Cuthbert Thompson, of Louisville, and Dr. J. H. Letcher, of Henderson, were chosen to compose the Committee on Entertainment. Dr. John J. Moren, of Louisville, and Dr. John R. Murman, of Covington, were elected honorary members. Resolutions were adopted condemning the public drinking cups and it was determined to send out circulars to the public asking that the cup be "ditched" from all railway trains. The State Board of Health will be asked to co-operate. The Association will meet next year in Lexington.

The Kentucky Osteopathic Association at its twelfth annual meeting May 5, under the Presidency of Dr. J. O. Day, Maysville, elected Dr. Thomas Gilbert, of Paducah, President, and Dr. J. M. Coffman, of Owensboro, Vice President. Dr. Martha Petree, of Paris, was re-elected Secretary and Treasurer.

The Kentucky State Homeopathic Society at its annual meeting last meeting last month in Louisville elected Dr. J. C. Thomason, of Georgetown, President; Dr. W. V. Neel, of Henderson, Vice President; Dr. Mary E. Hopkins, of Louisville

Secretary, and Dr. W. C. Hayden, of Wallonia, Treasurer. They will meet in Lexington next May.

Dr. Henry E. Tuley, of Louisville, has been elected Second Vice President of the Louisville Commercial Club.

Dr. W. Ed. Grant, City Health Officer of Louisville, has been elected Dean of the Medical Department of the University of Louisville by the Board of Trustees. He succeeds Dr. T. C. Evans.

Dr. Thomas C. Evans, resigned as Dean of the Medical Department of the University of Louisville on account of ill health. Dr. Evans has held this office since the merging of the Louisville Medical School.

Dr. H. E. Tuley, of Louisville, at the regular meeting of the Nashville Academy of Medicine addressed that body on "Milk in its Relations to Infant Mortality." The address was illustrated with stereoptean views.

The Eagle Valley Medical Society at its last meeting at Sanders, Ky., accepted the invitation of Dr. J. T. Windell, of Louisville, to hold its October meeting in Louisville as his guest.

Dr. Philip F. Barbour, of Louisville, has returned from a short stay at Saranac Lake, N. Y.

Dr. Henry Walbeck, Jr., of Louisville, has gone to New York to take a special course in medicine.

Dr. John W. Price and Mrs. Price, of Louisville, have returned from their wedding trip in the East.

Dr. V. L. Shepard, of Providence, is visiting his parents in Owensboro.

Dr. R. C. Kenner, of Louisville, has returned from a visit in Lebanon Junction.

Dr. B. C. Frazier, of Louisville, has gone to Atlantic City to spend ten days.

Dr. William S. Ehrich, formerly of Louisville, now of Evansville, Ind., will sail for Europe July 13th.

Dr. W. J. Heizer, of New Haven, has returned to his home from Louisville.

Dr. W. F. Beard, of Shelbyville, attended the Confederate Reunion in Little Rock.

Dr. D. S. Roberts, of West Point, has returned from a visit to Ekron.

Dr. T. E. Gosnell, of Louisville, has returned from Atlantic City.

Dr. O. M. Crenshaw, of Taylorsville, was in Louisville on a brief visit.

Dr. L. A. Veech, of Louisville, has returned from a visit to Shepardsville.

Dr. Hugh N. Leavell, of Louisville, has returned from Philadelphia.

Dr. J. T. Baker, of Hawesville, has returned from a business trip in Louisville.

Dr. Beeler Higbee, of Clinton, Ky., has located in Louisville.

Dr. B. F. Zimmerman, of Louisville, recently sustained fractures of both bones of his forearm.

Dr. M. F. Cooms, of Louisville, has returned from Florida.

Dr. J. M. Stallard, of Sparta, has returned from a visit to Cincinnati.

Dr. Joseph Barr, former physician of the Frankfort penitentiary, has been appointed sergeant-lieutenant of the medical staff of the Kentucky National Guard, and will organize a medical corps in Frankfort.

MARRIAGES.

Dr. Beeler Higbee, formerly of Clinton, Ky., now of Louisville, to Mrs. Edith Lillybridge, of Sioux Falls, S. D., May 8, 1911.

DEATHS.

Dr. H. A. Jones, of Louisville, at his home May 10, 1911, from heart disease, aged 32 years.

THE CLINICAL VALUE OF BLOOD PRESSURE STUDIES

Francis Ashley Faught, Philadelphia, Pa. (Medical Record, February 4), recognizes in this test a valuable diagnostic and prognostic aid in many diseases. In order to determine the effect of age on blood pressure the author has evolved a method of computation of the influence of advancing years in raising blood pressure. The widest application of this test is in cardiovascular diseases. It is of service in the study of myocardial conditions. In the treatment of cardiovascular diseases it is a simple and accurate means of following the changes in pressure. In detecting toxemias of pregnancy it is of aid. It is a reliable guide for the use of saline injections in tropical diseases. In surgery the safety of anesthesia is increased by its use; as a guide for venesection it is invaluable; ophthalmologists acknowledge its increasing applicability in their work.

The fact that the right kidney is movable and palpable over its entire extent in over 30 per cent. of women who present themselves for general examination (Bevan), should be always considered before attributing any obscure symptoms that may exist to this condition.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton" June 5, 12, 19 and 26.

| | |
|----------------------------|-------------------|
| DR. V. E. SIMPSON..... | President |
| DR. A. L. PARSONS..... | } Vice Presidents |
| DR. W. B. GOSSETT..... | |
| DR. H. N. LEAVELL..... | Treasurer. |
| DR. DUNNING S. WILSON..... | Secretary |

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House (no meeting in June).

| | |
|----------------------------|----------------|
| DR. J. A. FLEXNER..... | President |
| DR. ARGUS D. WILLMOTH..... | Treasurer |
| DR. G. B. JENKINS..... | Vice President |
| DR. H. J. FARBACH..... | Secretary |

LOUISVILLE SOCIETY OF MEDICINE; meets at the Tavern Club June 1.

| | |
|---------------------------|----------------|
| DR. C. B. SPALDING..... | President |
| DR. S. SCOTT PRATHER..... | Vice President |
| DR. RICHARD T. YOE..... | Treasurer |
| DR. W. O. GREEN..... | Secretary |

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club (no meeting in June).

| | |
|-----------------------------|----------------|
| DR. C. G. HOFFMAN..... | President |
| DR. VERNON ROBINS..... | Vice President |
| DR. CHAS. W. HIBBITT..... | Treasurer |
| DR. A. C. L. PERCEFULL..... | Secretary |

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club June 9 and 23.

| | |
|------------------------------|-------------------------|
| DR. J. GARLAND SHERRILL..... | President |
| DR. J. ROWAN MORRISON..... | Vice President |
| DR. FRANK C. SIMPSON..... | Secretary and Treasurer |

WEST END MEDICAL SOCIETY; meets at the Old Inn June 13.

| | |
|--------------------------|-------------------------|
| DR. I. A. ARNOLD..... | President |
| DR. H. L. READ..... | Vice President |
| DR. JOHN K. FREEMAN..... | Secretary and Treasurer |

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Stanford, Ky., July 20, 1911.

CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., August 10, 1911.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., August 9, 1911.

SOUTH WESTERN MEDICAL ASSOCIATION; meets in Clinton, October 10, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Versailles, Ky., July 13, 1911.

KENTUCKY ECLECTIC MEDICAL ASSOCIATION; meets in Louisville June 19, 1911.

NATIONAL ECLECTIC MEDICAL ASSOCIATION; meets in Louisville June 20 to 23, 1911.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., October 24, 25 and 26, 1911.

KENTUCKY STATE HOMEOPATHIC SOCIETY; meets in Lexington, Ky., May, 1912.

KENTUCKY STATE ASSOCIATION OF RAILWAY SURGEONS; meets in Lexington, Ky., May 8, 9 and 10, 1912.

AMERICAN MEDICAL ASSOCIATION; meets in Los Angeles, Cal., June 27-30, 1911.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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Original Articles

GOITER.

WITH REPORT OF CASES.

J. T. DUNN, M. D.

LOUISVILLE, KY.

From a surgical standpoint, the thyroid gland, on account of its intimate relation with vital structures in the neck, becomes a most important bit of anatomy. Its relation to the parathyroids, to say nothing of the great vessels and nerves which lie so closely, make it a very intricate bit of anatomy to deal with surgically. Its relation to the trachea, upon which it rests, and the various pressure symptoms which it produces when enlarged, makes us recognize it as essentially the center pin in the neck around which so many symptoms revolve, and demand the attention, not only of the internist, but of the surgeon as well.

The thyroid gland is covered anteriorly by the ribbon muscles of the neck, and lies, intimately connected with, and across the trachea, as well as the thyroid and the cricoid cartilage.

The operation for the removal of the thyroid is not a simple bit of surgery to be done in the office, or in a haphazard manner any place. The greatest care must be taken to observe the strictest aseptic routine. The greatest caution must be taken to remove only such part of the glands as will effectually eradicate the symptoms of hyperthyroidism, and remove only thyroid gland substance with that portion of its capsule lying in front of the gland. The posterior capsule in the modern surgical procedure is preserved intact with all of its exterior relations.

The thyroid gland is entirely surrounded by a dense fibrous capsule. The posterior layer divides into layers, one of which passes behind the œsophagus, and another between the œsophagus and trachea. The thyroid gland, normally, is the only structure within this capsule, but it occasionally happens that the parathyroids are within the capsule, together with the thyroid gland, and removal of the thyroid would likewise remove the parathyroids. Such an accident would most likely result in the development of tetanus. These minute bodies should be carefully looked for in every case of thyroidectomy, and, if detached, should be reinserted in new quarters and not removed.

The terms goiter, or exophthalmic goiter, are very bad terms to use. Hyperthyroidism is a better name for this condition, for it is not every case of goiter that has the system surcharged with thyroid secretion; neither is every case of thyroid intoxication possessed of a goiter. The term hyperthyroidism should be used to designate that class of cases giving distinct symptoms of thyrotoxicosis, or thyroid intoxication, of which eye prominence may be one symptom. There may or may not be a goiter. The cases of simple goiter show only the presence of a tumor (goiter) and pressure symptoms incidental to weight or displacement. The reports of Mayo show 300 exophthalmic goiters in 750 operations. In cases of hyperthyroidism with delayed operative treatment, it is not infrequent that complete recovery is looked for in vain because of degenerative changes in the heart, liver, kidneys, etc. Hence, early operation is indicated.

During my recent attendance upon the Mayo clinics, it

was interesting to note the method of handling advanced cases of hyperthyroidism—that of ligation of the arteries supplying this gland, followed, at a later sitting, by removal of the gland. In advanced cases, with degenerated organs, it is customary to use morphine-caitin-hyosein (Abbott), administered hypodermatically, to produce anesthesia, instead of ether, thus removing the goiter, or ligating the supply vessels, avoiding the danger attending ether narcosis. It appears to me that quinin and urea hydrochloride, administered locally into the superlying structures of the neck, would be an ideal local anesthetic. I have used the preparation quite a few times and have never had delayed union on account of the fibrous exudate frequently mentioned as a possible objection to its use, but never in goiter cases.

The symptoms of goiter generally consist in the presence of an enlarged thyroid gland, but this symptom is not essential to the disease known as hyperthyroidism; neither is the prominent eye (exophthalmos) an essential symptom, for many marked cases of hyperthyroidism do not have either of these symptoms, although it is commonly believed that a case of hyperthyroidism must necessarily have both, especially early in the case.

The over-production of thyroid secretion, which finds its way into the blood and causes the manifold symptoms, may be produced by a thyroid gland which appears to be normal in size, and such cases show little or no protrusion upon the neck; but, if operated upon, it would be found to have abnormally developed lobes deeply imbedded in the structures of the neck. "The most active condition of hyperthyroidism does not necessarily require the presence of a large tumor, or goiter, as, after the gland has doubled its size, the greater increase usually consists of colloid, a retention complement change occurring in the secretions retained in the vessels." (Wilson, *Am. Jr. Med. Secs.*, Dec., 1908.)

The symptoms most closely connected in hyperthyroidism are tachycardia and tremor. The eyes may or may not protrude, may protrude much or little, may not protrude early in the disease but may do so later. Muscular twitching, gastric crises, vomiting, occurring without any evident cause as re-

lated to digestion. The vasomotor system is disturbed, as is evidenced by diarrhoea, and the many nervous symptoms and feelings, such as the feeling of fear, etc. The heart becomes accelerated, owing to capillary dilatation. Late in the disease, degeneration of heart muscles, kidneys, spleen and liver occurs. Albuminuria, ascites, œdema of feet and limbs, are end results. Young girls, during sexual development, and, later, during pregnancy, frequently develop a degree of hyperthyroidism, which fact should not be overlooked as the possible cause of much of the nervousness occurring at that time.

The treatment of hyperthyroidism is surgical. Deligation of the arteries and thyroidectomy lie before us for choice in suitable cases. The cases suitable for ligation are those, not in the middle stage of the disease, but the mild and very severe cases. Here we get good results and avoid the possible production of a condition of hyperthyroidism. It has the advantage of not interfering with the later complete removal, if necessary, which is not likely, as ligation is successful in most cases.

Mayo says that, in about two-thirds of the cases seen by the surgeon, the operation for removal of the large lobe and isthmus may be done practical without undue risk, and in about one-third the symptoms will be so severe that ligation of the vessels, as advised by Wolfer, is advisable as a preliminary measure at least. In many of such cases the relief is marvelous, and will certainly place the patient in far better condition for thyroidectomy.

The condition known as myxedema, or hypo-thyroidism, and which is occasionally a terminal result of hyper-thyroidism, must not be mistaken for thyrotoxicosis, for it is due to a lack of thyroid secretion and not an over-secretion.

The surgical treatment I have followed is that advised by Mayo. First, ligation of the vessels. A transverse incision is made in a skin crease crossing the thyroid cartilage, and the wound is deepened to the gland between the omohyoid and the sterno-mastoid muscles. All of the branches of the superior thyroid artery are secured, at the apex of the lobe, in one mass ligature, which includes the superior veins as well, and, in some

cases, a bit of the upper pole of the gland. The ligature material is linen.

Second, enucleation. The incision for enucleation and excision is the transverse collar, or Kocher incision. The incision is best placed midway between the thyroid cartilage and the sternum. (I prefer to place my incision across the lower border of the supra-sternal notch, and claim advantage in thus placing the scar at such a low part, as it facilitates the wearing of low-necked dresses, especially if the patient is a young lady.) The incision includes the platysma, which is lifted above and below, with the skin flap over an area sufficient to expose the muscles covering the enlarged gland. A vertical incision now separates the hyoid muscles from the thyroid cartilage to the sternum.

In case of adenoma to be enucleated, the fibrous capsule is now opened, the goiter exposed, and incised to the depth of the adenoma capsule, which is enucleated, and the thyroid tissue closed with a locking button-hole stitch. A temporary drain of rubber tissue relieves the tension which might occur without this provision. The wound is closed with the subcutaneous suture.

In case of adenoma to be enucleated, the fibrous capsule is and cut, between forceps, near its upper insertion, which would be above the nerve supply. If more room is required in order to expose the upper pole and facilitate the ligation of the superior thyroid artery, the sterno-thyroid may be treated in a similar manner. This trap door exposure aids greatly in the elevation of the gland, which is now incised, along its outer border, with the dissecting scissors, and the tissues brushed down with gauze as the gland is dissected. The vessels as seen are caught and clamped. This capsule is not readily removed, as it is bound to the gland at many points by the trabeculae of connective tissue which penetrate the gland. The inferior thyroid artery may, at times, be caught before it reaches the capsule. The gland is rotated over the middle of the neck, preserving the capsule and deeper recurrent laryngeal nerves and parathyroids from injury. There seems to be but little danger from rough handling of the gland removed if the portion which is to remain is preserved from in-

jury. The severed muscles are united, and the wound drained with spread-rubber tissue over the raw surface of the thyroid, and a tubular drain is often employed for 24 hours. The wound is closed as previously described.

During the gland removal dissection, special care must be taken with reference to that portion of the capsule lying behind the gland. The safety of the patient and the ultimate success depend upon the preservation of the parathyroids, and in not disturbing the recurrent laryngeal nerves, both of which lie in close proximity to the outer surface of the posterior capsule.

I wish to report the following cases:

Case 1.—Mrs. M., age 37, mother of two children (ages 10 and 12), has had a prominent thyroid since January, 1910. Soon after detecting the goiter, muscular relaxation, tired feeling, with exhaustion, manifested itself. Muscular twitching for past two months with decided tremor. Nausea but no vomiting. Attacks of diarrhoea for past three or four months. Pulse 100; temperature 102 degrees F. Slight edema of ankles. Flashes of heat and cold, accompanied by moderate sweating. Has had headache for past four weeks and lost twenty pounds in weight. Appetite poor.

Treatment.—Placed upon Ung. Hydrarg. Iod. rubrum, locally, and Tr. iodine internally, in July, 1910. She finally consented to surgical treatment, and in September, 1910, the right lobe was removed, it being the larger lobe. Convalescence was uninterrupted, being in the hospital only ten days. The goiter symptoms rapidly subsided, and up to date, June 23rd, 1911, the patient is in perfect health.

Case 2.—Mrs. T., age 33; no children. Lipoma, size of a hen's egg, upon the posterior surface of the shoulder; duration two years; growth inflamed and painful. Exophthalmic goiter, of two years' duration, medium size, the right lobe being the larger. Symptoms very much like Case 1; nervousness, flashes of heat and cold, distinct tremor all over body, nausea and vomiting, eyes slightly protruded; pulse 100.

Treatment.—Removal, through low collar incision, as above described. Convalescence uninterrupted and complete. The lipoma was also removed.

Case 3.—Miss D., age 30 years, has had a goiter involving the right lobe, for five or six years. Growth was slow until past three or four months, when it became quite rapid, causing great discomfort from pressure, a dull ache or smothering feeling. Has been quite nervous for four or five months; has had no nausea, but attacks of diarrhoea at intervals for the past two years. Decided muscular tremor in hands, arms and lower limbs—"all over the body, inside and out." Is rapidly growing worse; has lost 15 pounds in weight in last three months; now weighs 115 pounds. Eyes moderately prominent; pulse 100; tumor size of a hen's egg on right side.



CASE 3.

Treatment.—Tumor was removed through a low collar incision, and found to be cystic. A portion of the thyroid gland was also removed. The wound was closed with drainage. Patient left the hospital on the seventh day, had double tonsillitis on the eighth day, and was followed on the fourteenth day by erysipelas in the collar incision, which yielded at once to the administration of a single dose of anti-streptococcic serum. Recovery was complete and entirely satisfactory, the patient stating that she is in better health now than ever before.

LAMINECTOMY.

GEORGE A. HENDON, M. D.

LOUISVILLE, KY.

The following case is reported from memory and must, as a result, be vague in some points:

A woman, aged 42 and weighing about 165 pounds, fell from a window a distance of about 30 feet, striking upon soft sodden ground. Her left fore-arm was broken (both bones) midway between elbow and wrist. When I saw her some 30 or 40 minutes after the fall she was paralyzed both as to sensation and motion from fourth rib down. She was conscious and did not complain of pain. One week after the fall she was operated upon at the Gray Street Infirmary and the lamina of the fifth and sixth cervical vertebræ were found to be fractured and pressing in upon the badly lacerated cord. The patient survived four weeks after the operation. There was never any improvement either of sensation or motion. In the meantime the fractured bones in the arm had united perfectly.

One very striking feature of the case which I vividly remember was that necrosis occurred over almost every bony prominence that came in contact with the bed. Even her knees and skin over the iliac spines where the bed coverings rested showed necrosis.

Recently I saw a man, aged 65 years, who fell down a flight of stairs. Three hours after injury, when I examined him, there was total loss of sensation and motion from the fourth rib down. The man was conscious and complained bitterly of peculiar burning and pricking pain in his forearms. He had retention of urine and feces. The following day, about twelve hours after the injury was received, he was operated upon at the St. Anthoy's Hospital. The sixth and seventh cervical and first thoracic vertebræ were found crushed and pressing in upon the injured cord. He survived the operation about 14 hours.

There is ample ground for criticism against one who subjects surgery to the reproach of an almost hopeless operation. People with fracture in the upper thoracic and cervical re-

gions invariably die whether they are operated upon or not. Then why add the operation to their already existing injuries? I have heard of cases that recovered and afterward carried their heads in framework, but I have never seen one nor have I seen anybody who did see one. The defense of the operation exists in the fact that it is these reported cases of recovery that inspires the surgeon with hope wherever he meets one of these distressing cases. When one views the victim of such an accident and notes his utter helplessness one cannot avoid picturing the future misery which is in store for the injured person and all who are closely connected with him. Then there rises in the surgeon's mind the eternal "if" the cord should happen in this particular instance not to be lacerated but subjected only to pressure either of a misplaced or a broken bone, relief is possible. But I do not now believe that in the upper thoracic or cervical region sufficient pressure can exist without laceration to cause complete loss of sensation and motion. If a degree of pressure is exerted to cause loss of sensation and motion then enough force has been brought to bear to lacerate the cord beyond hope of restoration. Therefore my experience convinces me of the utter futility of operative effort. If the patient presents, however, only partial loss of sensation and motion, then I would feel justified in making the operation to remove a clot or relieve pressure from other source. My idea tersely expressed is that laceration plus pressure in the cervical and upper dorsal regions produces total loss of sensation and motion and pressure in the same locality, minus laceration, results in partial loss of tactile and motor sense. As proven by accumulated experience from numerous surgeons this doctrine would not hold good in the lower regions of the spine. Any case of serious spinal injury, which is not complicated by other serious injuries, occurring below the mid-thoracic region is an indication for laminectomy.

This question of "indication for operation" hangs on the interpretation each individual places upon the term serious injury. I have two cases illustrative of this point. One was a negro boy 20 years old. He fell from a window a distance of about 20 feet. He was asleep at the time he fell. I examined him the next afternoon and found partial loss of motion and sensation from the iliac spines downward. The

boy could not stand on his feet, but could move them some and could feel a pin prick over certain areas of his thighs and buttocks. He had retention of bowels and bladder. We swung him prone in a hammock and applied a plaster jacket. He wore the jacket about three months, as I was informed by his attending physician. Two years after the injury we walked fairly well with a cane. This I regard as a border line case in which the question of indication for laminectomy was a debatable one. If the surroundings had been propitious I think I should have operated.

The next case was a Greek who was hurt in a mine at Bell-Jellico, Ky. He sustained his injury by being hit on the back by a fall of slate while in a stooping posture. His body was bent over by the weight like shutting up a jack-knife. When he reached Louisville 24 hours later, he was able to move his feet and legs but could not stand or walk. He also had retention. We put on a plaster jacket, but the same night he fought and made such hideous noise we were compelled to remove it. From then on he had no dressing of any kind. No fracture or displacement was evident. He had to be catheterized several times daily. His bowels would move only after a strong purgative. His improvement set in in about four weeks and was very rapid. He left the hospital in six weeks and I have received information since that he returned to work in the mines. This was clearly a case for conservative treatment as the results show, and it illustrates the type of case best to decline operation upon.

Go into the wards of any public hospital any time and there one sees at least one example of spinal injury, which to me is the embodiment of every misery that human flesh and reason can endure. There is no other affliction that entails upon its victim a woe that is comparable to that which follows destruction of the cord in the mid-thoracic or thoraco-lumbar region. In this locality much good can be accomplished by laminectomy, if the cord is not severed and if time for degeneration from the point of injury downward has not elapsed. I think it is pretty generally understood that complete severance of the cord puts the case beyond hope of restoration. No one, to my knowledge, has yet been able to duplicate the feat

of Stewart in uniting a completely severed spinal cord.

The technique of laminectomy is surprisingly simple and can be accomplished with a mallet and chisel in addition to the knife, scissors, artery forceps, etc., used in almost every surgical operation. The cord can be exposed by a trough one side of the spinous process, or by chiseling on both sides and removing the processes. It seems to me the latter is the preferable procedure.

THE DIAGNOSIS AND TREATMENT OF CYSTITIS.*

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LOUISVILLE, KY.

The organs of the human body that are intended to be the reservoirs of secretions, elaborated from the blood by other organs, are, because of their peculiar functions and locations and because of the anatomical structure and size of the canals that lead to and from them, very susceptible of inflammation.

The urinary bladder, while situated in the most perfect location for the function which it is designated to perform, is unfortunately connected at its discharging opening with the urethra, an organ concerned not only with the function leading the urine from the bladder but largely concerned in the function of copulation. The urethra frequently congested and inflamed is the abode of germ life of more virulence and of greater variety than the bowel itself. These facts, together with the anatomical structure of the urethra that is so prone to obstructive inflammation and consequent interference with the perfect emptying of the organ that it is supposed to drain, make the urinary reservoir the seat of frequent inflammation. We have also to deal with the urine which remains for a longer or shorter period in this cavity. A fluid of very complex composition, varying in the same individual, in frequent and remarkable changes in health, and still more so when the bladder is inflamed. The urinary bladder is situated also in close proximity to the auxiliary organs of copulation; the prostate gland and the seminal vesicles, themselves the seat of very frequent inflammation both acute and chronic.

*Read before the Eagle Valley Medical Society, May 17, 1911.

The epithelium lining the bladder is transitional in character, and arranged in several strata. The lowest cells are oval or rounded. The next are pear shaped, with the narrower end running between the deeper cells. The most superficial are cubical, but hollowed out upon their under surfaces, where they rest upon those below. Normally, in the adult, the flatter cells can be traced some distance from the bladder, down the urethra, before they are replaced by cylindrical cells.

The function of the epithelial lining of the bladder is entirely protective. So long as the surface is uninjured, there is no absorption from the bladder. In this respect the epithelium is almost as impermeable as the epidermis, although, of course, much more delicate in structure and more easily injured.

The reason that we do not often have absorption of septic or pyogenic organisms from the bladder is due to the fact that, under these conditions, a bladder keeps itself as empty as it can. Suppurative inflammation breaking out in a bladder that cannot empty itself causes the most intense form of septic poisoning. In every case of cystitis the urine contains pus and various forms of pyogenic cocci or bacteria. If organisms cannot be detected in the deposit by means of the microscope, they can always be cultivated by growing them upon suitable media. While a great variety of bacteria have been found in the pus of cystitis, some of them are known to be the cause of the suppuration, and others to have no relation to it. The bacterium coli commune in its various forms has been observed by the writer to be the most frequent exciting agent of cystitis, and with the exception of the tubercle bacillus, the most difficult to eradicate.

The streptococcus pyogenes, the staphylococcus pyogenes aureus, citreus and albus, proteus vulgaris and the gonococcus are exciting agents frequently encountered in the urine of cystitis.

The gonococcus plays a peculiar part in the production of cystitis, rarely invading the mucous lining of the bladder itself, it paves the way for the entrance of other organisms, by the obstructive inflammation of the urethra and the penetration of the delicate structures of the prostate gland and the seminal vesicles. Numerous cases of colon bacillus cystitis

have been observed by the writer that were complicated by seminal vesiculitis of gonorrheal origin, and only responded to treatment when the inflammation of the seminal vesicles had subsided.

Mechanical obstructions to the free exit of the urine from the bladder are frequent predisposing causes of cystitis: stricture of the urethra peri-urethral abscesses, hypertrophy of the prostate, calculi, papilloma, and other inter-vesicle tumors by obstructing the flow of urine, thereby causing decomposition and congestion of the mucous lining of the bladder.

The use of instruments that are not sterile is a means of introducing infective material into the bladder; that is probably one of the most frequent causes of inflammation of this organ.

The diagnosis of cystitis, is usually easy. In fact, the patient suffering from this complaint is very often aware of both the name and nature of his disease before he consults you, and many of them, have either attempted to treat themselves or have followed the advice of some friends.

The local symptoms of cystitis are increased frequency of micturition, pain, and tenderness on pressure over the bladder.

The recognition of pus and bacteria in the urine and in severe or more chronic cases attended by ulceration of the bladder wall, the presence of blood.

The nerves distributed to the mucous membrane lining the neck of the bladder are, normally, as insensitive to the contact of the urine as those of the corneal conjunctiva are to light. The stimulus that excites micturition is the tension of the walls of the bladder. When inflammation sets in the conditions are entirely changed, and the contact of the urine becomes as powerful a stimulus as the tension. Even in the slightest cases, where the epithelium is still intact, the nerves are intensely irritable. The contact of the urine with the mucous membrane at the neck causes violent contractions. As soon as a few drops collect, they are ejected with a force over which the patient has no control, and which is attended by intense burning pain.

The increased frequency of urination which is so characteristic of cystitis is the safeguard of the bladder, and prevents systemic infection.

If on the other hand, the bladder has lost the power of emptying itself; or if pyogenic organisms have penetrated the epithelial layer and invaded the wall of the bladder, and the perivesicle tissues have become involved, the symptoms that follow may be of the gravest character.

The treatment of cystitis at the present time shows that we have not been slow to follow the progress made by aseptic methods used in other surgical conditions.

The vast array of empirical antibleorrhagics that were used a few years ago, have been replaced by more scientific and rational remedies. We now have more or less perfect pharmacological agents, that have a known therapeutic value, chemicals whose utility in the treatment of cystitis depends on the fact that their ingestion renders the urine sterile, and an unfit medium for the growth of bacteria.

Hexamethylen-tetramin sold by various firms under different trade names, depends for its therapeutic value on the fact, that this drug splits off formaldehyde in the urine, which thus becomes sterilized, and that it can be administered indefinitely without fear of disturbing the stomach or of irritating the kidneys.

For the treatment of cystitis we have some remedies of botanical origin that act well and often relieve the pain and influence the inflammation. I refer to the preparations of kava kava, pichi and copiaba. Recently enterprising drug manufacturers have vied with each other to produce preparations of santal oil that were free from all objectional qualities, but my experience with them has not been successful in the treatment of cystitis.

For the relief of the severe pain attending cases of cystitis opium in some form is by far the best remedy that can be used. My favorite way of prescribing it is in the form of rectal suppositories, either with or without balladonna.

Irrigation of the bladder is the surgical means of treatment of cystitis, and if properly carried out in a perfectly aseptic manner, will cure most if not all cases of cystitis.

Where this inflammation is not attended with residual urine, and the deep urethra is not too sensitive, I reply on the hydrostatic method of Janet. By this means the bladder can

be washed out with antiseptics of various kinds, with little or no pain, and the traumatism which at times results from the introduction of catheters is avoided. The remedies in order of their general utility, are boric acid solution, permanganate of potassium solution, nitrate of silver solution, and normal salt solution.

ECLAMPSIA.*

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This is not a rare disease and its dangers to both mother and child are great; its etiology is not settled beyond dispute, nor is there entire accord as to the medical and obstetrical treatment, hence the subject is an important one and demands careful consideration. Eclampsia occurs about once in every 250 cases; however, it occurs more frequently at certain times and varies as to severity. Authorities agree that the disease is most frequent in labor, next, before labor and most seldom after labor.

Occurring in labor it is usually in the first stage, after labor within a few hours, sometimes after a lapse of several days.

Premonitory Symptoms.—The first attack may occur without warning, but usually there are premonitory signs lasting a few hours or days; these are nausea and vomiting, restlessness, weariness upon exertion, mental irritability, headache, dizziness, disturbance of vision, muscular tremors, singing in the ears and severe epigastric pains. Special importance is to be attached to three of these, epigastric pain, headache and disturbance of vision. The epigastric pain is not a constant manifestation, but if it occurs is significant, rarely lasts more than a few hours, and when severe and continuous a convulsive attack is imminent. Dyspnea is connected with epigastric pain and is attributed to the poison in the blood, which appears to be the essential cause of eclampsia.

The headache is usually frontal, or may be on one side or the other, but seldom occipital.

*Read before the West End Medical Society.

The disturbance of vision may be simply asthenopia or amblyopia or diplopia, or even absolute blindness.

According to Vinay, if headache is accompanied by flashes of light, singing in the ears, tingling and numbness of lower limbs the attack is at hand. Sometimes an aura precedes the attack, as a sensation of falling, raising arm before the face as if to protect it, or a cry of terror—one of my patients uttered a cry before each convulsion. If some of the premonitory symptoms mentioned occur in a woman who is edematous, whose urine is scanty and above all if this contains albumen and casts, convulsions are imminent.

Phenomena.—The patient lies fixed, and appears to be looking at some distant object and pays no attention to what is said or done; in a few seconds the eye-balls begin to move in various directions, then become still, usually turned upward and to the left, the head rolling from side to side, becomes fixed to the right, eyelids open and snout, facial muscles move spasmodically, mouth is drawn toward one side, the trembling tongue may be thrust between the teeth, brief jerking movements of the limbs occur, the arms pronated, forearms flexed, fingers holding the thumb firmly flexed in the palm, jaws rigid, respiration is arrested by contraction of chest muscles and rigidity of the entire body and limbs is present. In a moment chronic convulsions ensue, the rigid state ceases, wave after wave of disordered movement follows, respiration stertorous with moist bronchial rales, the swollen face, violet, livid or even black, gradually takes on less unnatural color; the frothy saliva is often tinged with blood. These convulsions usually last from one to five minutes, then cease with an unusually deep inspiration. Coma follows, the patient remaining unconscious and insensible. This may last from ten to twenty minutes or even longer. During the convulsion the body is covered with viscid perspiration. The pulse which was full and becomes weak frequent during it, but becomes more natural during coma.

The return to consciousness is only gradual and the time intervening is a blank to her memory. Very rarely there is but a single attack, still more rarely death results from this attack. In almost all cases after an interval of from one-half

hour to several hours the convulsion recurs and attack may follow attack with no return to consciousness.

The number of seizures may be very great, as many as 80 to 100 or more, the more frequent the seizures the less apt is recovery. It is rare for the attacks to continue longer than 48 hours, usually the fate of the patient is determined within the first 24 hours. There is a **progressive elevation of temperature** up to 102 or 104 F., and this increase indicates, if continued, a fatal termination whereas a beginning decline is favorable to recovery.

However this increase does not always occur and the temperature cannot be taken as a guide to diagnosis between eclampsia and uremia.

Urine is usually scanty, containing albuminous casts, epithelium, blood cells, etc., yet all albuminurics are not eclamptics and visa versa in my last case I found no albumin three weeks before labor and only a trace two days after convulsion.

The Influence upon the Uterus and Fetus.—When attacks occur in pregnancy, more especially in the latter weeks, generally the uterus is excited to action and its contents are expelled after the fetus is dead.

The death of the fetus may be followed by a cessation of the convulsions and the pregnancy may **continue for some time** even to term; meantime having a gradual lessening of the albuminuria. In other cases, not numerous, the fetus lives, the patient recovers, and the pregnancy is completed. Should eclampsia occur in labor this is accelerated and patient may be delivered without being conscious of it.

The death of the fetus occurs in about 50 per cent. of cases of maternal eclampsia, their death may result from the fact that pregnancy even before the child is viable, or caused by placental hemorrhages, which are liable to occur in albuminuretics; or from asphyxia resulting from deficient oxygen in the mother's blood, or from some poison. Some children are born hemiplegic, others, in good condition apparently at birth, die of convulsions similar to those of the mother.

Termination.—Eclampsia may end in death or in partial or complete recovery. Usually the patient dies from gradual

asphyxia caused by pulmonary congestion and edema. Cerebral apoplexy is the cause of death in some, hyperaemia of the brain, pneumonia or puerperal infection the cause in others.

The latter is probably more liable because of interference with labor, or means used to check the postpartum hemorrhage.

Acute yellow atrophy of the liver and from the profound toxemia regardless of complications. Mental defects discovered may appear making recovery incomplete, as amnesia may occur and be temporary or last for weeks or months; insanity occurs in some cases. Hemiplegia sometimes follows and is usually incurable. Fortunately a complete recovery is the rule.

Diagnosis.—Epilepsy presents the most striking resemblance but the fact of pregnancy, number of attacks, previous history, etc., would prevent doubt. Hysteria belongs to one who is hysterical and the evidence of feigning, etc., all enable us to discriminate.

Prognosis.—Authorities agree in general that attacks before labor are more often fatal than those occurring after labor; also, if the uterus can be emptied, without violence and soon, prognosis is more favorable. Duhrssen claims that if the uterus is relieved of its contents during profound narcosis in 93.75 per cent. of cases eclampsia is terminated; Charpentier taking statistics from German authors has shown that the mortality in 171 cases coming on after labor was 12.5 per cent.

In individual cases, if the attacks have been less than fifteen, if neither violent nor close together, if coma is brief, if temperature is not high, the pulse not frequent, if the secretion of urine be not greatly lessened, only slightly or not at all albuminous, there are good grounds for expecting a favorable issue.

Opposite conditions indicate a doubtful or fatal result. Very unfavorable prognostic conditions are complete anuria, profound stupor, loss of reflex, irritability, paralysis, small frequent pulse, great elevation of temperature and jaundice. The average mortality given runs from 20 to 50 per cent., or

Post Mortem Appearances.—Brain often presents no material lesion but in other instances there is anemia with edema, flattening of the convolutions less frequent hyperemia

and sometimes ruptured vessels and clots. Kidneys have been found absolutely normal but oftener present changes characteristic of pregnancy and of parenchymatous nephritis. Kaltenbach says, as pointed out by Virchow, that frequently the changes in the kidney are not significant and not at all in proportion to the gravity of the disease, on the other hand there may be grave alterations chronic parenchymatous and interstitial nephritis without any eclampsia. Yet even though slight changes in the kidneys the function may be seriously disturbed. Edema of the lungs is frequently found less often congestion and evidence of pneumonia. The liver may be completely disorganized and presents the lesion of acute yellow atrophy or increase in size. Capillary ectasia and hemorrhagic centers in the periphery; sometimes necrosis is found and again hemorrhages beneath the capsule, and some authors admit that some cases of eclampsia are cholemic rather than renal.

Etiology.—The causes of eclampsia are divided into predisposing, exciting and essential.

Predisposing.—Primiparity holds an important place. Statistics makes the disease from 3 to 7 times more frequent in primipara than in multipara. This has been attributed to, more frequent albuminuria in primipara, greater intra abdominal pressure, and excessive nervous excitability; longer labor is also a cause. The older the primipara the greater the liability. Pluriparity predisposes; here we have similar factors as in primipara which have been mentioned. Then again more work is thrown upon the eliminating organs. When the pelvis is narrow and size of the child's head large eclampsia is more likely to occur. More cases occur between the ages of twenty and thirty, perhaps, because more primipara.

Heredity has rarely been observed. Dr. Geo. T. Elliott records a mother of four daughters and then died of eclampsia at the birth of a son; of these daughters one died of eclampsia at sixth month of first pregnancy; second after having two miscarriages, died of eclampsia in the third pregnancy; the third had eclampsia at the sixth month and recovered, while the fourth was attacked in the eighth month and died after artificial delivery. The mental action may be a predisposing cause, as unmarried women are more liable.

Exciting Causes.—When the predisposing and essential are present the exciting cause may be a very slight one, as touching the os uteri, pressure of hand upon the abdomen, distended rectum or bladder, uterine contractions or movement of the child.

Essential Causes.—Various theories as to eclampsia which once prevailed, e. g., the nervous theory, as cerebrospinal congestion, the uremic theory and its derivation, have passed away. No intelligent physician now claims that urea retained in the blood is the cause of spasms and it is unfortunate that any continue the use of the word in this connection for it is misleading. The theory which makes toxemia the essential cause—not one, but several different poisons concerned—is now generally upheld. And which toxemia is usually associated with renal failure, yet it may and does occur without renal disorder. And then it is a question in some cases whether the toxemia does not cause the renal disorder. Some think it microbic in origin and that could only explain the toxic condition of the blood and not invalidate the opinion that the immediate cause in such condition. The theory of blood poisoning is sustained by the clinical history and post mortem changes, the gastric and cerebral prodromata, the rapid occurrence, the increase in temperature, the nature and frequency of nervous disorders which follow. The nature extent of anatomical lesions also correspond with such theory.

What is the source of the toxic agents?

Is autointoxication the true answer?

Treatment. Prophylaxis.—Avoid constipation and secure free action of the kidneys and skin. When there is albumin in the urine keep the bowels freely open.

Hot baths to produce skin action, following bath wrap patient in blanket, give hot milk and put to bed in warm room and abundant perspiration will result.

Milk diet should be the rule, at least eat sparingly of meat and vegetables. Drink alkaline mineral waters.

Vinay speaks highly of chloral when there is albumin in the urine, 45 grains daily and thus carry woman to full term and safe delivery.

One drop nitroglycerine three times daily assists in

albumin elimination. However in grave and persistent albuminuria when hygienic and medical means have failed and eclampsia threatened, the artificial interruption of pregnancy should be resorted to.

During the spasms the patient should be protected and not allowed to injure herself by biting the protruded tongue, inhalation of chloroform during the convulsion is generally resorted to and holds the patient quiet until other remedies may act. Chloral by rectum is used by many, 20 to 30 grains, and repeat after each attack with two or three drachms are given. Purgation, croton oil, eleterium, calomel by mouth.

The remedy par excellence is the tincture of veratrum viride given hypodermatically in 10 to 30 min. doses and repeat every 15 to 20 minutes till pulse falls below 70 and becomes soft and compressible. Give for effect up to one or two drachms in first three hours or until pulse is lowered. One dose of 30 min. will usually lower the pulse to 60 and prevent a return of spasms for two to three hours and if pulse begins to run up above 70 then give smaller dose of 10 to 15 min. or even less in order to keep up the effect.

If eclampsia occurs during labor or labor comes on during eclampsia the indications are to deliver as soon as possible and under complete anesthesia. Milk diet should be the rule in convalescence.

IODINE SKIN DISINFECTION.

Water and soap should not be used just before applying iodine as the water will swell the epithelium and the iodine will not penetrate deep enough. The iodine method is for the purpose of supplanting the scrubbing and washing and should not be used in conjunction.—G. H. Palmerlee, in *Detroit Medical Journal*.

DISEASES WHICH KILL DOCTORS.

Some interesting statistics have been published in Paris showing "the diseases which doctors die from." Forty-four per cent., it appears, die from heart affections; 20 per cent. from nervous disorders; 20 per cent. from the drug habit, and 7 per cent. from tuberculosis.

Selected Articles

PRACTICAL TREATMENT OF NERVOUS PEOPLE.

**J. J. MACPHEE, M. D.
NEW YORK.**

The needs of those who are afflicted with functional disorders of the nervous system, and what to do for them, seemed to me a suitable subject to choose for this discussion. Their complaints are so many as there are functions to be disturbed, and their symptoms so numerous and complex that they may be said to be of infinite variety. Therefore, it seemed fitting that a society whose membership includes representatives of every department of medical practice, all of whom discover them among their patients, should consider rational methods of treating them, the causes of their troubles, and the facilities provided for their benefit by the profession and the public. Another reason for keeping the requirements of this unstable class in mind is that they are and always have been the prey of every psychopath who has the capacity to proclaim a new dogma, and of every charlatan who has the business ability and energy to advertise a new remedy for the cure of human ills. In fact, these agencies, notably the former, appear to have obtained an incredible hold on public opinion at the present time, and while the ethics of the profession do not permit us to advise the people in a public manner on these matters, they do not absolve us from doing what we can to oppose them indirectly.

One good result from the propagation of these heresies is the fact that the profession in general has begun to pay more attention to this large and rapidly increasing class of sufferers. There has not been much done for them yet, but we are talking about it and probably something will come of it in time.

When neurotic individuals emerge from the minor psychoses, the feeding ground of our asylums, and pass into the insane class, ample accommodations and expert attention are provided for them by the State. This is due largely to the fact that the people are afraid of them, and, to protect themselves, they furnish spacious grounds, buildings, and various other conveniences under the guidance of scientific men who

are eminently qualified to treat and care for them. But, while they remain on the safe side of the border, they must shift for themselves so far as the State is concerned.

The limitations imposed upon me in preparing this short paper, excluding any reference to what others have thought, said, and done on the subject, restricting me to my own observation and experience, will lessen its scientific interest, and the time allowed me precludes a study of the underlying causes of nervous instability among our population and the inability of those affected with it to withstand the pressure of our social, business, and industrial life. That and many other matters of interest must be left to the discussion.

I suppose it will be conceded that an essential factor in the treatment of nervous troubles, as in the treatment of all other illnesses, is enough training and experience to understand them. I remember very well—and I presume many of you do also—when our medical schools taught students very little about this subject. Now, in our principal schools, in the larger cities at least, due consideration is given nervous and mental disease in the schedules of lectures and clinical demonstrations, but teachers are seriously handicapped in their efforts by lack of hospital accommodation for practical work. Our general hospitals have not provided and do not now provide as they should for our needs in this respect. In many of them the neurologist is not yet admitted to the regular staff, and even when he is, I believe a ward is not given him for the exclusive use of his patients. He is called in consultation by the attending physician or surgeon when the latter thinks he needs him, and thereafter the patients is left in the care of a staff who are untrained, under the direction of men who are not experts in neurology. It may seem a strong assertion, but nevertheless it is true, that the average general medical ward in our general hospitals has a very bad effect upon nervous patients. The suggestive influences of their surroundings are very disturbing, and suitable environment is, as you know, an exceedingly important part of every sensible method of treating them. What we need, and should have, is a hospital for nervous and mental diseases, or separate buildings in connection with our schools and hospitals for the care of nervous people. But, meanwhile, much better work could be

done by giving the neurologist separate wards for the treatment of his patients and the same standing and privileges as the physician and surgeon. Under present conditions, no special provision is made for the treatment of the multitude except in one institution, and that is still in its infancy.

In private practice there is no rule that can be laid down for one's guidance in all cases, and any attempt to fit one's patients into an arbitrary system will meet with resistance and often with failure. What one may do, of a surety any plan of procedure that will yield satisfactory results, must be conditioned upon a careful study of the patients' mental and physical state, a comprehensive grasp of their personality, a candid, trustworthy exposition of their personal history and inheritance and intelligent consideration and adjustment of their circumstances and associations. Besides, if the medical adviser's personality and character impress the patients favorably, thereby inspiring confidence, and his experience and judgment create and sustain a conviction that he is a competent authority in such cases, he will have obtained an ascendancy in their consciousness that will, of itself, dispel many of their doubts and relieve much of their discomfort. If he fails in that, there is little chance of benefiting them by administering drugs, arranging diet lists, smiling at their complaints, and recommending changes in their routine of life. I do not mean that medication is not necessary. On the contrary, it possesses an intrinsic and suggestive value that is indispensable in many instances. Nor do I hold that regulation of their daily doing and associations is not an essential element in the successful management of all patients. What I contend is, that unless one gets a strong control of his patients, other measures, however carefully considered and systematically carried out, are likely to fail. It is not an easy thing to do. We hear a great deal about hypnotism or suggestive influences, and no doubt there are some instances where good effects have been obtained in that way; but, I think, even the temporary relief is greatly exaggerated, and permanent benefit is, in my experience, a very exceptional thing. There are some weak willed, emotional, credulous people who like that sort of treatment and think it does them good. I have tried

it in a few susceptible persons in connection with other measures, and apparently succeeded in doing something they thought helped them, because they became very strongly impressed with what they believed was my power and persisted in asking me to repeat the treatment. But as far as I could see, the effect was temporary. I do not advise it or practice it or believe in it as a routine treatment.

I have observed curious changes to follow a painstaking examination of an hysterical subject without my intending it or thinking of it. For instance, I saw an hysterical paralysis of the left side of the face shift to the right, and an anæsthesia of one side of the body disappear and return or appear on the opposite side, and many things of that nature. Sometimes patients will tell you they feel perfectly well after a satisfactory consultation and they go away in a buoyant, cheerful state of mind. In these cases, it has seemed to me, something occurred more than the ordinary encouragement of an interview would produce. Such effects, however, are not lasting, and are offset usually by the disappointment that follows a return of the symptoms. I suppose one might interpret these unexpected changes as induced by suggestion, and very likely they help to strengthen one's grip on his patients. They are not uncommon occurrences in medical practice, and, while one should be mindful of such subconscious influences, it is safer, if permanent good is desired, to reach your patients through their intelligence. Just how to do that depends on one's experience, his intuition, his knowledge of human nature, and his familiarity with languages and racial characteristics.

If you wish to gain the confidence of sensitive, long suffering, petulant individuals, you had better avoid, in the outset, stating what you know to be their weakness and faults. If you try to comfort them by saying their symptoms are imaginary, they will resent it, because their conception of your meaning is that they are willfully magnifying their sufferings. It is true, as a rule, that their clinical manifestations are out of all proportion to discoverable causes, but even when they are intentionally exaggerated, as they sometimes appear to be, it is unpolitic and unprofitable to let them see that you know it. The tactful practitioner will unfold his interpretation of their feelings and his estimate of their personality as

he gets into their good graces and wins their approval. When he has done that he may become very ingenuous and inquire into their secrets, their conduct, and contacts with life without disturbing their composure or impairing their confidence. Many of them are very ready to tell what they know at once, and if anything is retained, it is because they do not remember it or consider it important. The majority, however, are secretive and indisposed to disclose all the facts of their history. If you press them unduly, they are likely to become hostile, especially if their symptoms are due to suppressing unpleasant memories, and they think you are too critical and severe. Others, with a bad inheritance, may be egotistical, selfish, and obstinately opposed to discipline and scientific direction. They are disposed to blame their relatives or friends or society in general for their misfortunes, and are often impossible patients.

If you suspect, as often happens in the hysterical type, that the incidence of the trouble is to be found in a forgotten experience, an amorous incident that has been put aside, or an erotic longing that could not be satisfied legitimately, I do not think it is wise to bring it back vividly into their consciousness any method of investigation. It would seem more rational—and my practical experience has led me to this view—to improve their consciousness by developing their understanding and common sense, rather than try to revive painful recollections of the remote past. A cheerful, confident trust in the future is not usually encouraged by urging people to recall their follies, mistakes, and errors of judgment.

One does not need to hear everything, and besides, it is not always necessary, for a close observer can get an insight into things very often without talking about them. I have found it better not to search the memory of these patients too closely, in the beginning, for subdued causes. What is in their active consciousness you will easily obtain, and as you grow in their esteem and overcome their resistance, they will tell you what you wish to know without reluctance, and, in fact, often reveal it spontaneously without your asking.

One must exclude organic causes before he can hope to make satisfactory progress with his treatment—advanced

arterial changes, uterine or ovarian difficulties, serious affections of vegetative organs, local irritations such as chronic appendicitis, floating kidneys, etc. If there are such conditions, they will require the care of those who are best fitted to treat them and should be referred to them if one is not qualified to do it himself. And even when the mental unrest externalizes itself by a disorder of some particular function or a pseudo-neuralgia of some particular organ, it causes an effective psychical influence to have your diagnosis sustained by experts in these special fields.

If you suspect a history of syphilis, it is very important to determine if there is active lues present, for general paresis or even cerebral syphilis may begin with functional symptoms. Until evidences of organic changes develop, there are no distinctive clinical signs that will enable one to detect an impending paresis, but a history or suspicion of syphilis will put one on guard, and if a reaction is found upon examination of the blood, vigorous antisppecific treatment, coupled with other precautionary measures, may retard its progress. I have had such patients, and though I cannot report any recoveries, I have observed decided improvement and am convinced that if you get them in the so-called "preparetic stage" and can control their conduct and medication, encouraging results may be obtained. I have seen the functional symptoms subside after a period of rest and a thorough course of treatment, and, but for negligence in following directions and other unfortunate circumstances, I think the onset of the disease would have been delayed.

Cerebral syphilis usually begins with characteristic symptoms, but sometimes it does not and may be mistaken for neurasthenia. I have had such cases. I recall clearly a case of cerebral syphilis in a young man I had treated for neurasthenia, until the supervention of an apoplexy enlightened me as to the cause. There was no specific history, but it was suspected, and if I had been guided by my suspicions the result would have been different. I think this is an important point, and if you wish more details on the subject, you will find them in an interesting paper by Dr. Dana, published in a recent number of the *Journal of the American Medical Association*. The larger number of patients that have

had syphilis or think they have had it, and become anxious and restless and unhappy from fear of its possible after effects, or get various obsessions or phobias, are treated like other troublesome neurasthenies, unless the blood state reveals an active lues; then specific treatment is demanded.

The surroundings and personal relations of your patient always require careful consideration. Very often, the exciting cause of the difficulty will be found in the family or among their friends, and a change of environment becomes imperative. And even when the home life is entirely free from friction and affords very desirable comfort and convenience, it is an advantage, in long standing cases, to isolate them under the care of experienced attendants. As the surgeon protects his wounds by antisepsis, so the neurologist must shelter his patients from all annoyance in order to get the best results from his treatment. But one cannot always do that. Some will not consent and others cannot afford it, and you are obliged to make the best of a discouraging and perplexing situation with the means at your disposal.

Immoderate use of alcohol and tobacco and similar agents must be abandoned. Abnormal sexual habits or secret practices are very common aetiological factors in these disorders. Abstinence and excesses and incompatibilities in the married state are not uncommon, but masturbation has been the most common, in my experience. If masturbation is discontinued before impotence supervenes or before the pleasure of the act makes normal sexual intercourse unsatisfactory and undesirable, its effects may not seriously imperil the chances of improvement; but if either of these conditions exists, the prognosis is assuredly bad. I have seen instances where a burning, relentless desire to resume the habit persisted into old age despite early marriage, agreeable marital relations, a spiritual life, and other efforts to suppress it. Occasional indulgence in boyhood, if it does not become a habit, is not injurious enough to be considered a contributing cause of these troubles. Abstinence in the male is a cause not frequently met with, but it does occur and is not easily adjusted. Women, for obvious reasons, are less likely to admit their desires, and one has to rely upon inference for his facts; but, judging from observation, I do not think abstinence is as

common a cause among them as is generally believed. The best treatment is marriage, or moral admonition in which spiritual advisers are experts, and if the latter fails and the former is impossible, our civilization provides illicit means of gratification they can enjoy if they wish.

Every rational plan of treatment will include intelligent supervision of diet, regulation of exercises and diversions, and rest. The best exercise is walking in the open, the best diversion is agreeable occupations and pleasant pastimes, the best diet is what agrees with an nourishes, and the best rest is freedom from responsibilities and annoyances and enough normal sleep. Stimulants are usually, but not necessarily, excluded. One must adapt one's directions to the requirements of his patient, and when there are no contraindications, I should not withhold a cup of coffee in the morning, a glass of wine or beer with dinner, or a cigar in the evening because theorists do not approve of them. Ordinarily, when the digestive functions are not much impaired, rigid restrictions in diet are not necessary; but, in advanced types with extreme exhaustion and inadequate vegetative functions, complete rest in bed and scrupulous attention to diet become imperative. Massage is then substituted for active exercise and mental diversion must be provided by attendants. In connection with diet one has to consider constipation, which is a common condition in these patients. Foods that favor intestinal peristalsis, by leaving enough residue to overcome their intestinal lethargy, should supplant the use of laxatives, but the latter are necessary in the beginning of treatment. On the other hand, one may be troubled by a treacherous diarrhoea suddenly developing on the eve of some important event or undertaking that causes mental agitation and anxiety. Rest and composure will relieve it, but a dose of castor oil may be needed in intestinal fermentation.

While the administration of drugs in the treatment of these disorders has been replaced, to some extent, by other scientific measures, there still remains an unavoidable demand for their employment. One sees occasionally statements purporting to come from good authority that their usefulness has gone by and that people can be treated successfully without them. Those of you who have had to combat the mischievous

prejudices disseminated among the people by irregular practitioners, know the danger of such unqualified announcements. Drugs are necessary. There are many cases we can manage without them, but in most instance we can do better with them and in some cases they are absolutely essential. Obstinate insomnia, for instance, will not yield without the temporary use of hypnotics, and severe headaches and pseudoneuralgias require analgetics to relieve them. In depressed mental states, with apprehension and irrepressible restlessness, bromides and the denarcotized preparations of opium do good. Tonics and aids to digestion, as well as calomel and castor oil and the cholagogue salts, are often indispensable. There may be some danger, if one is not cautious, that hypnotics and opiates produce a habit in susceptible persons, but, as a rule, they are taken without anxiety and stopped without difficulty. Persistent cases in patients with a rebellious temperament and stubborn disposition, or, where the circumstances are unfavorable, may need them for considerable time, but ordinarily they can be discontinued after a few weeks of treatment. Occasionally one finds that patients become dependent upon them and will buy them in the shops if they know what they have been taking; but this is a rare occurrence and should not prevent their use when conditions demand.

I regret I cannot do more than mention the importance of electricity, hydrotherapy, and physical exercises for the correction of disordered muscular functions. My paper is already beyond what I intended, but I trust the discussion will bring out what I must omit.

Psychotherapy may be said to have its special field of usefulness in the treatment of nervous people. It is an important element in the therapeutics of every illness, but in functional disorders of the mind and nervous system it gained its reputation and its notoriety. It has been the foil of the impostor and the refuge of the psychic healer, and has won its widest publicity through abnormal and dishonest ways of using it. Among its most conspicuous advocates are those who suspend the normal consciousness of their patients to administer it, and certain idealists who have made it an article of faith in their social organizations. There is a mysticism attached to it, when practised in this way, that wins steadfast supporters

among credulous people, and the fact that it sometimes brings relief without voluntary effort by the patient adds to its popularity with persons who like to be indulged. The latest addition to the subjective methods of treatment is what is called psychoanalysis. Suggestion, as you know, aims to dispel symptoms by putting opposing ideas into the patient's mind while under hypnotic influence, but psychoanalysis probes the memory for the pathogenic idea that caused them, brings it back into consciousness, and banishes it forthwith. The theory upon which it is based is both ingenious and elaborate, but not convincing. Like all new thing in medicine it has its adherents, and there are some experienced neuroogists who think it has value. It is not practical, and I do not believe it is commendable. The illogical thing in all these subjective methods of treatment is that they pretend to strengthen the self control of patients by temporarily suspending their will-power and approaching them through their instincts and credulity. It is admitted that repeated hypnosis weakens the resistance of the will, and, therefore, every treatment given under its influence must lessen intellectual control.

Placebos and subterfuges, such a giving baking soda instead of hypnotics, and sugar of milk to relieve pain, and various tricks of that sort, may work once in a while, but, as a rule, they are detected and do harm instead of good. If you arouse a suspicion that you are not absolutely candid in everything you say and do your patients will not trust you, and, furthermore, many of them are annoyed by any measure that casts doubt upon the reality of their sufferings. They may appreciate a joke at another's expense, but they seldom like to be included in one themselves. A genuine sense of humor in your patient will enable you to overcome many troublesome obstacles, but, unfortunately, it is a quality seldom met with in a psychopathic individual.

My experience has been that every normal, encouraging influence and every helpful measure, whether it be the force of your character or the sincerity of your purpose, a calming sedative or a bracing tonic, an invigorating exercise or a stimulating bath, a comforting diversion or the consoling attention of a tactful nurse, is psychotherapy in so far as it brings hope and confidence and brighter prospects to your patient.—*New York Medical Journal*.

THE COMPENSATION FOR MEDICAL SERVICES.

Whatever may be the true explanation of the present high cost of living, and newspaper and magazine writers have discussed and defended every possible theory to account for it, the fact remains and is forcibly brought to our attention every day that it take about \$1.75 to buy what ought to be bought and what a few years ago could be bought for \$1.00. There are perhaps none in the community, with the possible exception of the small salaried men, who suffer more from this increase in the cost of the necessities of life than do physicians. The wage earner has seen his wages steadily increase with the increased cost of living; the shopkeeper makes the same margin of profit, or a larger one, than before; the capitalist and the man of large investments sees his wealth accumulate more rapidly than ever, but the medical man who is facing a steadily growing competition, not only from the constant increase in the number of educated physicians in all communities, but also from the many new forms of quackery and therapeutie fads which attract large number of those who should be his patients, the medical man we repeat, sees his income steadily diminishing and at the same time sees his dollars shrink in size. In addition to the increased competition in the practice of medicine, new methods of prophylaxis and treatment, which physicians themselves have discovered and introduced, are constantly reducing the number of cases of sickness and shortening their duration, so that the physicians sees fewer patients, than formerly, makes fewer calls than before on those he does see, receives as a rule smaller fees and can purchase much less with the fees which he does receive. He must keep about the same standard of living as before, the cost of equipment of his profession, like everything else is higher than ever, and so the financial problem of his life becomes more pressing every year. What of the future?

We are not prepared of course to solve the problem in all its phases, perhaps not in any of them, but there is one point of view which we would like to call attention to and to emphasize. We stated above that there is less sickness than formerly and that very many diseases run a shorter course than used to be the case. This means that the cost of sickness,

both to the community and to the individual has been much lessened. This reduction in the cost of sickness has been brought about by the medical profession and thereby the world has incurred a debt to our profession which we believe should, after some fashion, be paid. It cannot of course be paid directly, but there must be some kind of readjustment in regard to the compensation of physicians for their services which shall correspond in some degree to the changed conditions of medical practice. The general practitioner is the hardest hit, for his cases of typhoid, of diphtheria, of scarlet fever and of infantile diarrhoea are becoming fewer and fewer and he makes fewer calls upon those he does see.

Now we are not for a moment deploring this triumph of medicine over disease; we boast of it and glory in it, but we also feel that the increased value of our services is deserving of increased compensation. This can be brought about by a general increase in our charges to those who can afford to pay and it can be brought about for the general practitioner, the family physician, by adopting a method which we have long felt ought to be adopted by him. Why not abolish entirely the old-fashioned plan of charging so much a visit and carefully recording the number of visits made and charge as the surgeon does, a lump sum for the whole period of each service? It is certainly not adequate compensation for having cared for a well-to-do patient through a case, for instance, of typhoid fever which has entailed say fifty visits, to charge exactly three dollars a visit. We believe that such a service is worth twice or perhaps three times that amount. We believe that the time has come to give up our so-called fee bills which establish a fixed price for each visit and for each service and have a general understanding that it is impossible to itemize our accounts at all. Let each physician when he has completed his attendance upon a patient render his bill for such an amount as in his opinion his services have been worth to the patient, taking into consideration not only the amount of time he has given to the case, but also the circumstances of the patient, and his ability to pay. If this plan were generally adopted it would not only materially simplify the physician's bookkeeping, but it would result in a much fairer compensation for his services.—*Editorial from St. Paul Medical Journal.*

Recent Progress in Medical Science

THE TREATMENT OF RINGWORM.

D. W. Montgomery, San Francisco (*Journal A. M. A.*, May 27), says that while the St. Louis Hospital at Paris is one of the oldest seats of medical learning in the world, it looks it in its antiquated buildings and backward administration in many respects. A notable exception, however, is its skin department, which is one of the best of the kind that he has even seen. It handles an immense amount of clinical material and its surgeons are among the foremost in the world in this specialty. He specially mentions the clinic of Sabouraud and his treatment of ringworm by the X-ray. The methods are described in detail and some of the prescriptions employed are given, with full directions for their use. The X-ray treatment has some disadvantages. The difficulty of treating ringworm of the scalp with the ordinary methods lies in the thick coating of stout hair in which the fungus lodges, but with the affected area completely denuded of hair by the X-ray the disease becomes as easy to treat as if on the free surface of the skin. A rather heavy dose is required, however, usually for about fourteen minutes at 20 em. The risk of causing an X-ray burn is therefore imminent. In Sabouraud's clinic it is said that they never have any unfortunate results, but other operators are not always so successful. The pastilles of Sabouraud which are used as control tests, as made in Germany, England and France, are not always of uniform composition and their change of color when interposed in the X-ray may not always be a reliable guide. When an ordinary pyogenic infection of the scalp is associated with ringworm Alibour's lotion is an excellent remedy. It is composed of sulphate of copper 2 gm., sulphate of zinc 7 gm., camphorated alcohol 20 gm., water from 1,000 to 2,000 gm. It is an excellent antisreptococceie as well as antistaphylococceie lotion, and can therefore be used in erysipelas, etc., with advantage. In conclusion, Montgomery speaks of the immense skin disease material passing through the hospital which is an embarrassment of riches, as inducing imperfect diagnoses.

TREATMENT OF DYSMENORRHEA.

M. L. Harris, Chicago (Journal A. M. A., April 15), divulges the dysmenorrheas into three groups: (a) those due to deranged general states; (b) those due to abnormal conditions of the uterus; (c) those due to abnormal conditions of the ovaries and tubes. It is these last which he especially considers, and especially those that are not accounted for by any general state or disease of the uterus, the so-called ovarian dysmenorrhea, which he is convinced exists. The pain is mostly premenstrual, usually bilateral, and the ovarian regions are very sensitive to pressure. The patients are frequently neurotics or have become such. He conceived the idea of relieving these patients by resection of the nerves supplying the ovaries and the internal three-quarters of the tube, especially those of the plexus aorticus abdominalis, or, as Frankenhauser calls it, the plexus spermaticus, which are purely sympathetic in their nature. He describes the anatomy of this plexus and says the resection of the nerves is a simple matter if carried out as follows: "The abdomen is opened in the usual manner. The infundibulopelvic ligament picked up with a forceps and made taut. An incision 3 or 4 cm. in length is then made through the peritoneum along the free border of the ligament beginning well up toward its proximal end. With the handle of scalpel or blunt dissector the two layers of peritoneum are freed from all the other tissues forming the ligament; a catgut ligature is passed around the proximal end of this mass and tied; a similar ligature is passed around the distal end and the intervening portion, usually from 2 to 3 cm. in length, is resected. The incision along the free border of the ligament is then closed with catgut and the operation is completed. It will be readily understood that in the small mass of tissues removed are included all the nerves passing to the ovary, as well as the ovarian vessels from which it is impossible to separate them. As the ureter enters the pelvis through the base of the proximal portion of this ligament, great care must be exercised not to include it in the ligature. Of course, the resection is made bilaterally if the trouble is bilateral." The effect of the resection is to cause anesthesia of the ovaries and inner portion of the tube. Of course, this operation does not relieve other

forms of dysmenorrhea than those attributable to these nerves. He has operated now on over twenty women with gratifying results and no other effect than the relief of pain has been noted, as the sexual and reproductive functions are not disturbed.

AN EASY AND CERTAIN METHOD OF DIAGNOSING AND FOLLOWING A FISTULOUS TRACT.

Jerome M. Lynch, New York (Medical Rec., June 3, 1911), describes an original method of following up a fistulous tract. He makes use of a mixture of peroxide of hydrogen and a saturated solution of methylene blue. The peroxide will carry the methylene blue into the finest ramifications of the fistula and the blue stains the tract so that the knife can follow it up easily. This method is especially useful to the occasional operator. The after-treatment of such cases is important; it is necessary to watch them carefully so that any bridges formed or any healing of the surface with an unhealed portion left behind may be guarded against. A probe often will not follow the tract accurately.

GASTRO-INTESTINAL SURGERY.

J. M. T. Finney, Baltimore (Journal A. M. A., June 3), discusses certain problems of gastro-intestinal surgery, and says that the progress that has been made and the perfection of the technic lead to a certain danger. Because, on the one hand, the diagnosis is often so difficult, and requires special training for many of the tests, and superior knowledge in their interpretation, while, on the other hand, the operation has become so much more safe and exact. Therefore, the temptation to slur over the examination and history and rely on an easy exploratory operation is becoming more difficult to resist. To avoid the performance of an unnecessary operation and to prevent unpleasant results, at least four things should be kept in mind: (1) a correct diagnosis should be made; (2) every care and detail should be observed to make the operation technically perfect; (3) existing conditions should be accurately observed and properly interpreted; (4) the results of operative

procedures should be carefully watched and recorded in sufficient numbers and covering long enough periods of time to enable one to judge of the end-results of a given line of treatment. If there was more co-operation between surgeons and physicians in observation there would be more success. Finney points out and illustrates by cases reported, some of the difficulties which are met with. For example, gastro-intestinal neurasthenies, so called, where operation does not reveal a state of affairs readily comprehensible. Two cases of this sort are reported, and he calls attention particularly to certain pathologic conditions found. These were (1) a greatly dilated upper duodenum and patent pylorus and (2) the great redundancy of the colon, especially the transverse portion, and its malposition. The first of these he is as yet unable to explain. With it are associated almost invariably changes in the pancreas similar to what has been called chronic pancreatitis by Mayo Robson, and Finney thinks that the two are in some way connected, but just how he does not say. The colonic conditions he is inclined to think will be explained ultimately by the absorption of bacterial toxins. Every case of stomach trouble, he says, is a difficult problem, requiring careful consideration of not only a long list of abdominal disorders, but of some extra-abdominal ones also, and it may at times be most misleading. Great latitude has to be given in interpreting the operative findings, and he reports illustrative cases in addition to those already reported. His summary of the paper is given as follows: "1. Problems of diagnosis present greater difficulties and are further from solution than those of treatment. 2. Certain operative procedures, gastro-enterostomy, e. g., have reached such a state of perfection that the ease of performance renders them a possible menace and calls for greater care in the proper selection of cases. 3. The tendency to dogmatize on too little evidence in matters pertaining to the causation and treatment of the so-called functional intestinal neuroses should be discouraged, and a more scientific observation, interpretation, collection and record of established facts substituted therefor. 4. As a result of the knowledge gained by such comprehensive and exhaustive study of the intricate problems involved, it is not unreasonable to hope that,

ultimately, in carefully selected cases, surgery may offer relief to this unfortunate group of gastro-intestinal neurasthenics."

ACUTE GONORRHEAL EPIDIDYMITIS.

Charles M. Watson, St. Louis, Mo., (*Medical Record*, June 3, 1911), bases his paper on 100 cases of gonorrheal epididymitis treated in the St. Louis Hospital. He states that epididymitis is a frequent complication of gonorrheal urethritis, very painful, and liable to result in sterility, with the possibility of infection of others. The mode of entrance of the germ into the epididymis is through the ejaculatory duct and vas deferens as the result of retroperistalsis. Predisposing causes are trauma, instrumentation, lack of suspension of the scrotum, sexual intercourse, and masturbation. Sterility in bilateral epididymitis occurs in a very large percentage of cases. Kocher found 21 out of 28 cases. The location of the inflammation has much to do with the production of sterility, the location in the head of the epididymis being more likely to produce it. Treatment consists of suspension, avoidance of trauma and jolting, of sexual intercourse, masturbation, and instrumentation. When there is fluid in the tunica vaginalis one should aspirate it, since relief of pain is immediate. Strapping the testicle is useful after the acute symptoms have subsided.

ABDOMINAL WOUNDS.

R. T. Morris, New York (*Journal A. M. A.*, June 17), offers an explanation of certain cases in which, after operation on the stomach, the wound of the abdominal wall, in spite of apparent primary union and in the absence of symptoms of sepsis, opens unexpectedly a few days after operation. He has recently had an experience of two such cases, one of which he reports, and at the same time heard of two others occurring in the practice of other surgeons. Failing to find anything in regard to the subject in the literature, it occurred to him that the evidence of some trophic fault was sufficient for investigation along the lines suggested by Head, relating to certain superficial zones which are known to be irritated in connection with irritation of different viscera. Head had shown that

when we have ulcer of the stomach, the sensory nerves of the skin are irritated is a zone which forms a triangle, the base of which is at the linea alba, extending between the ensiform cartilage and the navel, with its apex at the ninth intercostal space. It seemed to Morris that we might assume that trophic disturbance occurs in the same superficial area, and thus account for the failure of wound repair in these cases. Examining the right Head zone in the cases reported, he found, instead of hyperesthesia, a distinct lessening of sensation, while there were two slightly hyperesthetic spots on the corresponding zone of the other side. These points were observed independently by his assistants. Sensation in the zone was determined to be practically normal, but it seemed as if the trophic nerves which were similarly distributed were irritated simultaneously with the sensory nerves, thus affecting the process of repair. In two cases experimented with by blistering in the Head zone, one of gastric ulcer and the other of angina pectoris, the reaction was more intense within the Head zone and lasted twenty-four hours longer than in a distant test area. All these facts seem to bear out the theory he has offered for these cases of failure to repair.

HEXAMETHYLENAMIN IN COLDS.

Austin Miller, Porterville, Cal. (*Journal A. M. A.*, June 10), says that, in view of the reported excretion of hexamethylenamin in the secretions of the parts affected in common cold, he has been trying it in this condition during the past year. In most cases it acts promptly and efficiently. The irritating watery secretion of coryza stops; the fever, aching and malaise of influenza cease; the threatening disease is averted. It should be administered as soon as possible after the nose begins to feel stuffy and discomfort begins. If delayed till later in an old cold and after mixed infection has occurred its effects are less satisfactory. As regards dosage, he thinks a larger amount should be used than is required for urinary antiseptics, and at the onset he prescribes twelve grams in twelve powders of fifteen grains, one powder to be taken in a glass of water four times a day. Copious water drinking is advised to lessen bladder irritation, which is the only ill effect, but occurs

only occasionally and disappears as soon as the medicine is discontinued.

HYDRONEPHROSIS.

H. J. Whitacre, Cincinnati (Journal A. M. A., June 24), gives an account of a woman, aged 68, who showed an enlargement of the abdomen equal to a seven or eight months' pregnancy, the physical signs and her age all pointing to the existence of a large ovarian cyst, which diagnosis was made. Her trouble dated back for twenty years and the tumor for sixteen, and it was diagnosed at that time as gas accumulation and obstruction. Operation showed that the cyst was not attached to either ovary and was retroperitoneal. The peritoneum was divided over the cyst and two gallons of fluid drawn off with a trocar. The cyst was then delivered by a blunt dissection, extending up as far as the liver, without much hemorrhage. A large artery and vein were cut between clamps. They were later shown to be the renal vessels. The peritoneal incision was closed by a continuous suture and the abdomen closed without drainage. The absence of the kidney on one side was determined. The patient made a perfect recovery. During the whole time of her disease there was no recognized bladder irritation, her symptoms being mainly gastric. Whitacre thinks there must have been a large stone lodged in the ureter at the time of the appearance of the tumor.

All languages swarm with proverbs concerning the man of medicine. In India they say, "Plant not thy tent where there is no temple, school or physician;" the Germans aver *Geistliche reinigen das Gewissen, Aerzte den Leib, Juristen den Beutel*, coupling the doctor with the clergyman in his disregard of money; the French also absolve the physician from mercenary motives: "*Un grand medecin ne fait point le pot bouillir*," although some surgeons have other things on the kitchen range besides the humble stew. An old English proverb tells us that the good surgeon must have an eagle's eye, a lion's heart, and a lady's hand.—New York Medical Journal.

Book Reviews

AMERICAN PRACTICE OF SURGERY; A Complete System of the Science and Art of Surgery, by representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M. D., LL. D., and Albert H. Buck, M. D., of New York City. Complete in eight volumes. Profusely illustrated. Volume viii., pages 1146. William Wood & Company, New York.

This volume completes this exhaustive system of eight volumes, comprising 102 valuable articles. It begins with an exhaustive article of Intrathoracic Surgery, in which the authors, Joseph and J. Louis Ransohoff, of Cincinnati, very fully treat surgical chest conditions with the exception of the heart and oesophagus. They describe Sauerbruch's methods of preventing operative pneumothorax by operating under negative pressure in an air-tight chamber; also Brauer's positive-pressure apparatus, which is considered by Knettnr of equal value. There follows articles on surgical conditions of the abdominal viscera; that on Surgery of the Spleen is written by Alexander Esslemont Garrow, M. D., C. M., of Montreal; Surgical Diseases and Wounds of the Kidneys and Ureters is contributed by James Bell, M. D., of Montreal; Surgery of the Pancreas, by George Davis Stewart, M. D., of New York; Surgery of the Liver, Gall-Bladder, and Biliary Passages is also contributed by Stewart. Surgical Diseases, Wounds, and Malformations of the Urinary Bladder and Prostate is by Alexander Hugh Ferguson, M. D., C. M., of Chicago; Surgery of the Ovaries and Fallopian Tubes, by Benjamin R. Schenck, M. D., of Detroit; about 240 pages are devoted to Surgery of the Uterus and its Ligaments, contributed by John B. Murphy, M. D., and Frank W. Lynch, M. D., of Chicago; Dr. Lewis S. McMurtry, of Louisville, is the author of the two brief articles that follow, Extruterine Pregnancy and the Caesarian Section and its Substitutes.

Part xvii. of the volume treats of The Law and Its Relations to the Practice of Surgery, under which head is considered the civil obligation of surgeon and patient, the relation that must exist to constitute the obligation, the recognized

legal requirements of the surgeon, consent to surgical operations, ordinary procedure in actions for malpractice, the surgeon as a witness, what constitutes privileged communications, waiver of privilege, the award of damages and etc., of extreme medico-legal interest to every surgeon. This section of the volume is well worth the attentive reading by all who practice the art of surgery. It is contributed by Stephen D. Smith, M. D., and Sidney Smith, LL. B., of New York City.

Under the title "Administrative Surgical Work" Dr. Christian R. Holmes, of Cincinnati, discusses Hospitals and Hospital Management; Major Charles Lynch, of the Medical Corps of the U. S. Army, discusses Military Surgery; Surgeon-General Charles F. Stokes, of the U. S. Navy, discusses Naval Surgery, and Dr. James Alexander Hutchison, of Montreal, contributes the article on Administrative Railroad Surgery. The volume concludes with an article on the Relation of Blood Pressure to Surgery, by J. E. Sweet, M.D., of Philadelphia, and a complete and well arranged general index.

This last volume is a fitting conclusion of this comprehensive work, which we regard as an authoritative guide to the recent advances in surgery. The editors have been judicious in selecting authors of recognized attainments and authority. What we said in our review of the seventh volume we may say of this final one, that the work reflects credit upon all—editors, contributors and publishers—who have labored in its making, and richly merits the highest commendation as a work for reference.

A TEXT-BOOK OF MEDICAL DIAGNOSIS. By James M. Anders, M. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, and L. Napoleon Boston, M. D., Adjunct Professor of Medicine, Medico-Chirurgical College, Philadelphia. Octavo of 1195 pages, with 443 illustrations, 17 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, \$6.00 net; Half Morocco, \$7.50 net.

In this present volume the authors especially aim to furnish an improved method of determining the clinical features of diseases, so that all of the more important systematic phenomena in a given case may be collected with ease and certainty, and

to emphasize the importance of correlating symptoms with the structural changes on which they are dependent and their organismal etiology. The method as outlined in the introductory chapter provides a sure and proper basis for rational treatment. A scheme for history-taking, physical examination, and laboratory findings is subjoined, which if adhered to in conducting examinations will be of greatest practical value to the examiner.

This work is divided into the following headings: Diseases of the respiratory system, diseases of the circulatory system, diseases of the digestive system, diseases of the urinary system, acute infectious diseases, animal parasitic diseases, constitutional diseases, and diseases of the nervous system. These are subdivided and treated of at great length. The differential diagnosis is discussed very fully throughout the pages of the work in connection with individual affections. Among the new features that commend themselves are the brief pathogenic definitions of special diseases, the illustrative cases selected from those actually observed in the hospital and private practice of the authors, and the numerous diagnostic tables, designed to aid the student and practitioner in contrasting the distinguishing signs and symptoms of diseases which bear a close clinical resemblance to one another.

The text is profusely illustrated with photographs and colored plates, with a view to facilitating the readers grasp of the technic of the more refined methods of diagnosis. This treatise is thoroughly modern, practical and, we believe, thoroughly accurate. It will undoubtedly be received with favor by both student and practitioner.

THE PRINCIPLES AND PRACTICE OF BANDAGING; By Gwilym G. Davis, M. D., Third Edition, Revised. Illustrated from Original Drawings by the Author. Pages 128. Cloth Price \$1.00 net. P. Blakiston's Son & Co., Philadelphia, 1911.

This little book is based on a previous one by the same author, issued in 1891. The illustrations, however, have all been redrawn and the manuscript rewritten, so that it is practically a new book. In describing the roller bandages their simplest and best mechanical construction is given, only the essential turns are described and illustrated to avoid confusing

the learner; no attempt is made to describe all peculiar bandages or turns, as simplicity is the main characteristic of the modern bandage.

Inasmuch as this book is intended for beginners and others not informed in medicine, the language used has been as simple and direct as possible, technical terms and expressions being avoided.

GOLDEN RULES OF PEDIATRICS; By John Zahorsky, A. B., M. D., Clinical Professor of Pediatrics, Medical Department Washington University. With an Introduction by E. W. Saunders, M. D., Emeritus Professor of Diseases of Children and Clinical Midwifery, Medical Department Washington University. C. V. Mosby Company, St. Louis, 1911. Cloth. Price \$2.50.

This work should by no means be considered a text-book for teaching the subject of pediatrics. Its purpose is to furnish the busy practitioner with practical suggestions in diagnosis and treatment. The author says, it is especially in diagnosis that certain concise directions are helpful; for example, when a child complains of pain and tenderness in the right iliac region, it is well for the physician to bear in mind that an examination of the right lung is necessary. Working formulas receive the greater consideration when stated in terse propositions. The pages of this little book contain aphorisms, observations, and precepts that have appeared to the author most valuable. These formulate practical rules for diagnosis; the essentials of infant feeding, and the principle of scientific treatment. Quite a number of new rules have been added to this second edition under the various headings.

DISEASES OF INFANTS AND CHILDREN; A Manual of Diseases of Infants and Children. By John Ruhrah, M. D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore. Third Revised Edition. 12mo volume. Pages 534, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Flexible leather, \$2.50 net.

The appearance of this work in a third edition in so short a time after its initial publication is clear evidence that this

little book has been cordially received. It is prepared for the medical student, not to supplant the larger and necessary text-book, but to enable the student to grasp quickly the more important parts of the subject of pediatrics, and to furnish him with a rapid reference-book for clinical use.

Among some of the parts of the book that have been changed in this edition are the articles on the examination of sick children, food intoxications, broncho-pneumonia, the examination of the heart, examination of the nervous system, and the section on therapeutics. A table showing the doses of the most useful drugs suitable for children of various ages has also been added, as well as instructions concerning the summer, the care of the mentally deficient, the blind, and the deaf. The entire section relating to the infectious diseases has been rewritten. The text is clear and comprehensive, the illustrations about 173 in number are eminently practical.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Gynecology, Orthopedies, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession throughout the world. Edited by Henry W. Cat-tell, A. M., M. D. Volume ii., Twenty-first Series, 1911. Philadelphia and London: J. B. Lippincott Company, 1911. Cloth. Price \$2.00.

This quarterly contains the following articles on medicine: The Causes and Principles of the Treatment of Constipation, by Edward Turton, M. D., Ch. B.; The Cultivation of Medicinal Plants, by Alice Henkel; Diseases Produced by the *Bacillus Coli Communis* in the Intestines: Etiology, Diagnosis and Treatment, by Fenton B. Tarek, M. D.; Mobility and Malpositions of the Heart, by Thomas E. Satterthwaite, M. D.; Cirrhosis of the Liver, Chronic Myocarditis, and Aortic Regurgitation; Broncholithiasis; Peliosis Rheumatica; Unresolved Pneumonia, by Joseph M. Patton, M. D.; Five Cases of Trichiniasis, by J. Norman Henry, M. D.; The Action of Certain Intestinal Antiseptics on Gastric Digestion, by Julius Friedenwald, M. D., and T. F.

Leitz, M. D.; Appendicitis from a Practitioner's Standpoint, by M. Howard Fussell, M. D.; The Progress in the Tuberculosis Campaign in Pennsylvania up to 1911, by Lawrence F. Flick, M. D.; Preventive Medicine in General Practice, by Joseph P. Remington, Ph. D.

That section of the book devoted to surgical subjects contains the following: A Method of Suspending and Fixing the Pro-lapsed Uterus, by Peter Daniel, F. R. C. S.; The Surgical Aspects of Typhoid Fever, by Charles Greene Cumston, M. D.; Circumcision: How to Perform It Under Local Anaesthesia, by Benjamin H. Breakstone, B. S., M. D.; Pathologic Fractures, by Albert E. Halsted, M. D.; Gastropexy, by G. M. Dorrance, M. D.; Treatment of the Excessively Fat and Pendulous Abdominal Wall, by Brooke M. Anspach, M. D.; Experiences in the Surgery of the Caecum, by James E. Moore, M. D., and The Intravenous Administration of Salvarsan in the Treatment of Syphilis, by B. A. Thomas, M. D. Additional contributions contained in this volume are: Some Advances in Obstetrics During the Last Twenty-five Years, by A. Laphorn Smith, B. A., M. D., M. F. C. S.; Uterine Displacements with Special Reference to Retro-flexion, by W. O. Henry, M. D.; Curious Obstetric Happenings, by C. C. Mapes; Chronic Cystitis in Women, by Henry D. Beyea, M. D.; Organic Diseases of the Nervous System, with Special Reference to the Knee-jerks, by George W. Hall, A. M., M. D.; Neoplasms of the Larynx, by Charles M. Robertson, M. D.; Refraction by the General Practitioner, by William Zentmayer, M. D.; Kaiserling Specimens in the Teaching of Pathology, by Guthrie McConnell, M. D., and Wounds, by William S. Wadsworth, M. D.

ONE THOUSAND SURGICAL SUGGESTIONS; By Walter M. Brickner, B. S., M. D., Adjunct Surgeon Mount Sinai Hospital Editor-in-Chief American Journal of Surgery, with the Collaboration of James P. Warbasse, M. D., Harold Hays, M. D., Eli Moscheowitz, M. D., and Harold Neuhof, M. D. Pages 225. Cloth-bound, Semi de Luxe, \$1.00. Full de Luxe, Leather, \$2.25. Surgery Publishing Company, 92 William Street, New York.

This is one of the biggest little books ever presented to the profession. In its 225 pages are found a collection of 1,000

epigrammatic, succinct, virile and instructive hints based upon actual experience and everyone a lesson in itself.

The Suggestions are so arranged and indexed that all subjects covered can be immediately referred to and the particular hint upon any particular subject immediately found. It bristles with pointed and useful suggestions, which in many cases might just turn the scale from failure to success. Its mechanical presentation is a feature worthy of mention. It is square cloth-bound, stamped in gold, printed upon India tint paper with Cheltenham type, with special marginal side headings in red. A dollar would be well invested in the purchase of this book.

MERCK'S MANUAL OF THE MATERIA MEDICA. Fourth Edition.

A Ready Reference Pocket Book for the Physician and Surgeon. Containing a comprehensive list of Chemicals and Drugs—not confined to "Merck's"—with their synonyms, solubilities, physiological effects, therapeutic uses, doses, incompatibles, antidotes, etc.; a table of Therapeutic Indications, with interspersed paragraphs on Bedside Diagnosis, and a collection of Prescription Formulas, beginning under the indication "Abortion" and ending with "Yellow Fever;" a Classification of Medicaments, and Miscellany, comprising Poisoning and its Treatment; and an extensive Dose Table; a chapter on Urinalysis, and various tables, etc. (Merck & Co., 15 Park Place, New York, 1911. Pages 493. Sent on receipt of forwarding charges of 10 cents, in stamps, to physicians, or to students enrolled in any college of medicine in the United States.)

TUBERCULOSIS AS A DISEASE OF THE MASSES AND HOW TO COMBAT IT. By S. Adolphus Knopf, M. D., New York. Seventh American Edition, Revised and Enlarged. With Sixty-four Illustrations. The International Congress to Combat Tuberculosis as a Disease of the Masses, which Convened at Berlin, May 24 to 27, 1899, awarded the International Prize to this Work through its Committee on July 31, 1900. First American Edition, 1901. Seventh American Edition thoroughly revised and enlarged. Pages 124. Price, paper, 25 cents, postage prepaid; Cloth, 50 cents. The Survey, New York, 1911.

ACKNOWLEDGMENTS.

ST. LUKE'S HOSPITAL MEDICAL AND SURGICAL REPORTS. Volume II. 1910.

REPORT OF THE POLIOMYELITIS COMMITTEE OF THE MEDICAL ASSOCIATION OF THE DISTRICT OF COLUMBIA. Epidemic 1910. Reprinted from Washington Medical Annals, Vol. X., No. 2. May, 1911.

THE INCREASE OF INSANITY; By J. T. Searcy, Superintendent of the Alabama Insane Hospitals. Reprint.

SMALLPOX IN THE UNITED STATES; PREVALENCE AND GEOGRAPHIC DISTRIBUTION DURING THE CALENDAR YEAR 1909; By John W. Trask, Assistant Surgeon General U. S. Public Health and Marine Hospital Service. Treasury Department. Washington Government Printing Office, 1911.

OPERATIONS FOR FRACTURED FEMUR; ELEVEN SUCCESSFUL CASES; By John B. Walker, M. D. Reprint.

PELLAGRA IN BUFFALO; By Grover W. Wende, M. D. Reprint.
GLYCOSURIA; By S. H. Blodgett, M. D. Reprint.

A NOTE ON SMALLPOX IN THE PHILIPPINE ISLANDS; By Victor G. Heiser.

SMALLPOX AND VACCINATION IN CUBA; By P. Villoldo, Treasury Department. Washington Government Printing Office.

INHERITED SYPHILIS AND BLUE SCLEROTICS; By J. D. Rolleston, M. D. Reprint.

THE HOUSE FLY AS A CARRIER OF DISEASE; By Edward Hatch, Jr. Reprint.

EDUCATION AND PREVENTIVE MEDICINE; By Norman Edward Ditman, Ph. D., M. D. Paper. Pages, 73. Price, 25 cents. The Columbia University Press, 1911, New York.

ARTERIAL LIGATION FOR IRREMOVABLE CANCER OF PELVIC ORGANS—TECHNIC ADAPTED AND AMPLIFIED; By William Seaman Bainbridge, M. D. Reprint.

THE ARYLARSONATES IN THE TREATMENT OF SYPHILIS AND PELLAGRA; By E. H. Martin, M. D.

Miscellany

PRACTICAL GLEANINGS.

Courvoisier's law is rarely broken—enlargement of the gall-bladder with pronounced jaundice means neoplasm.

A morsel of sugar dipped in vinegar, and placed in the mouth, it is stated, will stop hiccough directly.

Sudden anuria may be the first symptom of a carcinoma of the cervix in an apparently healthy woman.

Torticollis after adeneectomy means a post-operative infection.

Blood appearing at the meatus after the passage of clear urine has probably come from the bladder or prostate; if at the beginning of mriation, from the prostate; if between the times of mriation, from the urethra.

If a hernia suddenly becomes irreducible, advise prompt operation; if the patient vomits, even once, insist upon it!—*American Journal of Surgery*.

In facial paralysis investigate carefully the condition of the middle ear. Caries of the petrous portion of the temporal bone may induce a neuritis.

Do not give antipyrin, camphor or belladonna to a nursing mother, unless it is desired to diminish the secretion of milk.

Before returning the intestines after appendicectomy, make sure of two things, first, that there is no mesenteric thrombosis; second, that there is no bleeding from the mesenteriolum (one may bleed to death from an untied vessel torn, for example, when preparing the appendix base after tying the mesenteriolum).—*Am. Jour. of Surg.*

NEWS ITEMS.

The National Eclectic Medical Association met at Louisville, June 20-23. The constitution and by-laws were satisfactorily revised and passed by unanimous consent. The Advisory Committee and Electoral College are abolished, and a Committee of Delegates, composed of one delegate selected by each State society and college, takes its place for the consideration of all business matters, its actions to be referred back to the general convention for consideration. A telegram was sent to President Taft, commending his address to Congress on fake patent medicine labeling. An address of welcome by Governor Wilson and Mayor Head were features. Sixty made the trip to Mammoth Cave after the meeting closed. The new officers are: President, A. F. Stephents, St. Louis, Mo.; First Vice President, George T. Fuller, Mayfield, Ky.; Second Vice President, Thomas Owens, Hineckley, Ill.; Third Vice President, Nannie M. Sloan, State College, Pa.; Recording Secretary, W. P. Best, Indianapolis, Ind.; Corresponding Secretary and Editor of Quarterly, W. N. Mundy, Forest, O.; Treasurer, E. G. Sharp, Guthrie, Okla. Next meeting will be held at Washington, D. C., June 18-21, 1912.

The Southwestern Medical Association held its annual meeting in Paducah May 17-18. The following officers were elected: President, Dr. William G. Kinsolving, Eddyville; Vice Presidents, Drs. T. Atchison Frazier, Marion, and Claude E. Kidd, Paducah; Secretary, Dr. Henry G. Reynolds, Paducah (re-elected); Treasurer, Dr. Varnon Blythe, Paducah (re-elected), and Historian, Dr. Robert T. Hocker, Arlington (reappointed). The next session will be held in Clinton, October 10.

The Eagle Valley Medical Association, at its annual meeting held in Sanders, elected the following officers: President, Dr. Edward E. Bickers, Henry County; Vice President, Dr. C. H. Duval, Warsaw, and Secretary and Treasurer, Dr. John W. Botts, Owenton.

The American Medical Association met in Los Angeles, Cal., June 27-30. The newly elected officers are: President, Dr. Abraham Jacobi, New York; First Vice President, Dr. William J. Barlow, Los Angeles, Cal.; Second Vice President, Dr. F. W. McRae, Atlanta, Ga.; Third Vice President, Dr. W. R. Tipton, Las Vegas, N. M.; Fourth Vice President, Dr. A. L. Wright, Carroll, Iowa; Secretary, Dr. Alexander R. Craig, Chicago; Treasurer, Dr. William Allen Pusey, Chicago; Trustees, Dr. Philip Marvel, Atlantic City, N. J.; Dr. Philip Mills Jones, San Francisco, Cal., and Dr. W. T. Sarles, Sparta, Wis.; Chairman of Committee on Transportation and Place of Session, Dr. J. Rawson Pennington, Chicago; Council on Health and Public Instruction, Dr. Henry B. Favill, Chicago; Council on Medical Education, Dr. John A. Witherspoon, Nashville, Tenn.; Judicial Council, Dr. Hubert Work, Denver, five years; Dr. James E. Moore, Minneapolis, four years; Dr. Alexander Lambert, New York City, three years; Dr. A. B. Cooke, Nashville, Tenn., two years, and Dr. Frank Billings, Chicago, one year.

The House of Delegates adopted resolutions approving the Owen bill, creating a Department of Public Health, and chose Atlantic City as the place for the next meeting in 1912.

Dr. Frank M. Beard, of Shelbyville, has returned from Martinsville.

Dr. Adolph O. Pfingst, of Louisville, this month sailed for Europe. He will spend some time in the Tyrolian Alps and then visit Vienna for a month.

Dr. E. T. Bruce, of Louisville, has gone to Asbury Park, N. J., for a three weeks' stay.

Dr. William Osler, Regius Professor of Medicine at Oxford University, England, and formerly Professor of Medicine at Johns Hopkins University, Baltimore, was among the recipients of coronation honors recently, the rank of baronet being conferred upon him. Dr. Osler went to England from Baltimore in 1904.

A modern railroad passenger coach fitted up as a traveling health exhibit by the Kentucky Association for the Study and Prevention of Tuberculosis, is now touring the State of Kentucky, making stops at all railroad stations.

Dr. J. T. Wallingford, Health Officer of Covington, is reported to be seriously ill with rheumatism. Dr. Cleon C. Owens is temporarily in charge of the department.

Dr. William M. Dwyer, of Louisville, was struck by a street car while driving and is said to have suffered a dislocation of his right arm.

Dr. B. F. Underwood, of Georgetown, and recently interne in Louisville City Hospital, has located in South Louisville.

Dr. H. H. Smith has resigned as Chief Physician of the Indiana Reformatory at Jeffersonville, to take effect August 15. Dr. J. H. Walker, of Henryville, Ind., will succeed him.

At the seventy-fourth annual commencement of the medical department of the University of Louisville, 159 graduates were awarded diplomas. The class is probably the largest that will be graduated in any medical school in the country this year.

Dr. S. L. Pottinger, of Louisville, has gone on a business and pleasure trip to Texas and Mexico; he will be away about six weeks.

Dr. Cuthbert Thompson, of Louisville, sails for Europe July 8.

Dr. and Mrs. Gordon Carr, of Morganfield, have returned from Grayson Springs, where they had gone to spend their honeymoon.

Dr. Frank Collyer and Dr. Lillian Collyer, of Louisville, are spending the month at Atlantic City.

Dr. James Vance, formerly of Louisville, now of El Paso, Tex., has returned home after spending several weeks in Louisville.

Dr. George T. Fuller, of Mayfield, visited a few days in Louisville.

Dr. Charles M. Garth, of Louisville, has returned from a fishing trip in Middlesboro.

Dr. Percy Burnett, of Paducah, visited in Eastwood.

Dr. W. Hamilton Long, of Louisville, has returned after a shorts stay in Clark, where he was the guest of Mr. D. T. Collier.

Dr. Dunning S. Wilson, of Louisville, attended the annual meeting of the National Association for the Study and Prevention of Tuberculosis, held in Denver, Co., and from Denver went to Los Angeles, Cal., to attend the meeting of the American Medical Association.

Dr. J. W. Guest, of Louisville, is spending several weeks in the West. He is now in San Francisco.

Dr. W. Edward Grant, of Louisville, was elected President of the American Association of Medical Examiners at its recent annual meeting at Los Angeles, June 27 and 28.

Dr. Joseph M. Taylor, of Mt. Washington, is visiting in Baltimore, M. D.

Dr. Herbert Truesdale, of Covington, and Mrs. Truesdale are on their honeymoon in New York.

Dr. C. M. Logsdon, of Mt. Washington, is visiting in St. Louis.

Dr. H. T. Morris, of Greemp, has returned from a ten day's visit with relatives at Blaine.

Dr. J. E. Taylor, of Madisonville, visited in Henderson.

Dr. R. C. Johnson, of Eminence, has returned from Springfield.

Dr. J. M. Mathews, of Louisville, attended the meeting of the American Medical Association in Los Angeles, Cal.

MARRIAGES.

Dr. James H. Hatfield, of Barren Fork, Ky., to Miss Julia McClancy, of Flat Rock, Ky., June 12.

DEATHS.

Dr. James H. Sale, of Galloway county, Ky., died at his home in Murry, June 2., from heart disease, aged 74 years.

Dr. R. W. Taylor, of Louisville, died June 25 at his home.

Dr. E. E. Hume, of Frankfort, died at his home July 5, of nephritis, aged 70 years.

EPIDEMIC POLIOMYELITIS.

The American Orthopedic Association and the American Pediatric Society have issued the following circular in reference to acute epidemic health:

“Anterior poliomyelitis is, so far as known, a communicable disease, being communicated from one patient to another and also by means of a third person. It occurs in epidemics and tends to spread along the lines of greatest travel. There is reason to believe that it is prevented from spreading by quarantine, and with the very great prevalence of the disease in the summer of 1910 it is the opinion of this committee that it is essential that it should be made a reportable disease in all states in order that its presence may be detected and its spread guarded against.

“Of particular significance are the so-called abortive cases, where indefinite ailments occur in children in communities

where frank paralysis also exists. These abortive cases of infantile paralysis are undoubtedly a source of infection, and their record and study is of much importance. In a community where cases of infantile paralysis occur cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as possibly infections. In such cases even recovery without paralysis does not establish the fact, that the case was not abortive infantile paralysis.

"All cases of infantile paralysis should be strictly quarantined, sputum, urine and feces being disinfected, and the same rigid precautions being adopted as in scarlet fever. This quarantine should, in the opinion of the committee, last for four weeks in the absence of definite knowledge as to when the infection sputum, urine and feces being disinfected, and the same rigid precautions being adopted as in scarlet fever. This quarantine should, in the opinion of the committee, last for four weeks in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is abandoned. The transportation or transfer of acute cases in public conveyances should be strictly forbidden. It would be very desirable to adopt provisional quarantine measures in suspicious cases in a community where an epidemic prevails. The report of all cases of infantile paralysis to the public health authorities should be enforced by law, and all deaths from this cause should be properly described and registered. A careful study of epidemics by public health authorities is strongly advised. Signed: Robert W. Lovett, M. D., Chairman; Henry Koplik, M. D.; H. Winnett Orr, M. D.; Irving M. Snow, M. D., Secretary.

"It is well known," remarked Dr. Ben Trovato, "that oophoritis raises Cain with a woman's health. Perhaps I may be permitted to say that, if the condition is complicated with a salpingitis, what is really raised is Tubal Cain."

Overdistention of the bladder due to neurasthenia, hysteria, shock or prolonged voluntary retention may be overcome by administering a rectal enema consisting of a pint of warm water and an ounce of glycerin.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton" (no meeting in July).

DR. V. E. SIMPSON.....President
DR. A. L. PARSONS..... }Vice Presidents
DR. W. B. GOSSETT..... }
DR. H. N. LEAVELL.....Treasurer.
DR. DUNNING S. WILSON.....Secretary

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House (no meeting in July).

DR. J. A. FLEXNER.....President
DR. ARGUS D. WILLMOTH.....Treasurer
DR. G. B. JENKINS.....Vice President
DR. H. J. FARBACH.....Secretary

LOUISVILLE SOCIETY OF MEDICINE; meets at the Tavern Club July 6.

DR. C. B. SPALDING.....President
DR. S. SCOTT PRATHER.....Vice President
DR. RICHARD T. YOE.....Treasurer
DR. W. O. GREEN.....Secretary

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club (no meeting in July).

DR. C. G. HOFFMAN.....President
DR. VERNON ROBINS.....Vice President
DR. CHAS. W. HIBBITT.....Treasurer
DR. A. C. L. PERCEFULL.....Secretary

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club (no meeting in July).

DR. J. GARLAND SHERRILL.....President
DR. J. ROWAN MORRISON.....Vice President
DR. FRANK C. SIMPSON.....Secretary and Treasurer

WEST END MEDICAL SOCIETY; meets at the Old Inn July 11.

DR. I. A. ARNOLD.....President
DR. H. L. READ.....Vice President
DR. JOHN K. FREEMAN.....Secretary and Treasurer

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Stanford, Ky., July 20, 1911.

CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., August 10, 1911.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., August 9, 1911.

SOUTH-WESTERN MEDICAL ASSOCIATION; meets in Clinton, October 10, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Versailles, Ky., July 13, 1911.

KENTUCKY ECLECTIC MEDICAL ASSOCIATION; meets in Louisville May, 1912.

NATIONAL ECLECTIC MEDICAL ASSOCIATION; meets in Washington, D. C., June 18-21, 1912.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., October 24, 25 and 26, 1911.

KENTUCKY STATE HOMEOPATHIC SOCIETY; meets in Lexington, Ky., May, 1912.

KENTUCKY STATE ASSOCIATION OF RAILWAY SURGEONS; meets in Lexington, Ky., May 8, 9 and 10, 1912.

AMERICAN MEDICAL ASSOCIATION; meets in Atlantic City, 1912.

THE American Practitioner and News.

"NEC TENUI PENNĀ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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No. 8

Original Articles

PAIN AS A SYMPTOM OF RENAL DISEASE.

B. F. ZIMMERMAN, M. D.,

LOUISVILLE, KY.

Surgeon to Louisville City Hospital

Errors of diagnosis resulting from false interpretation of the significance of pain in the kidney region are common. Grave kidney lesions are often overlooked because the pain is supposed to be due to some affection of muscles, spinal column, or nerves; and, on the other hand, kidney disease is diagnosed when the lesion is really one of muscle, or bone, or of some organ whose location is remote from the kidney.

The object of this paper is to call attention to some of the conditions simulating renal disease, with the hope that it may emphasize the importance of painstaking investigation before a diagnosis is made.

Pain is a prominent symptom of many surgical affections of the kidney and ureter. It may be local, or referred. In

character and severity it ranges from a heavy, dragging sensation in the lumbar region, scarcely to be dignified by the title of pain, to the most intense and excruciating agony of renal colic. Pain may be the result, either of irritation or of distention of the kidney or ureter. The origin of renal pain involves the question of the sensitivity of the viscera. This subject has received much attention at the hands of both physiologists and clinicians. It is a fact long since demonstrated that the viscera may be subjected to the action of intense chemical, thermal and mechanical stimuli "without in the most evenescent or slightest degree affecting the attention of consciousness." This fact has led to the belief, on the part of some, that the viscera are insentient. Thus, MacKenzie, as the result of clinical investigation at the bedside and operating table, concludes that "The organs themselves are incapable of evincing pain or other sensations, as touch, sensibility to cold and heat, but that there is originated in them an impulse which passes by their nerves (automatic) to the center of one or more sensory nerves in the brain or cord (cerebro-spinal). The stimulation of these centers evokes pain, which is referred to the peripheral distribution of these nerves in the body wall."

Tenderness over an affected viscus is due to the hyperæsthetic state of the somatic nerve, and is to be located in the body wall (skin, muscles, etc.).—MacKenzie.

On the other hand, the testimony of physiologists and most clinicians is in favor of the view that the viscera possess sensation, provided the stimulus is adequate. Sherrington says "Yet, to imagine all these structures insentient were certainly mistaken. One is misled by the impotence of inadequate stimuli." And, again: "All that is necessary is that the mechanical stimulation be adequate, and to be adequate, it must be of a certain kind. Thus we see that when the mechanical stimulation employed resembles that occurring in the natural accidents that concern medicine, the experimental results fall into line with those observed at the bedside. * * * Adaptation has evolved a mechanism for which one kind of stimulus is the appropriate; that is, the adequate stimulus. Other stimuli than the adequate, not being what the adaption fitted the mechanism for, are at a disadvantage."

Head, while not denying sensation to the viscera, offers this explanation of pain experienced in visceral disease, and especially of referred pain. When an organ of low sensibility has central connections with an area of higher sensibility, the pain produced by the stimulation of the organ of low sensibility, is, by a psychic error of judgment, referred to the area of higher sensibility. The structures lying within this area then become tender and painful, and MacKenzie also called attention to the fact that the skin in this area becomes hyperalgesic. The kidney, ovary and testicle, according to most observers, possess a higher degree of sensibility than the other viscera. MacKenzie denies this, and maintains that the pain produced by injury of the testicle is not due to sensation in the testicle, but to the fact that the tunica vaginalis in its descent has carried with it a branch of the genito-crural nerve, and it is really the injury of this that causes the pain and not the injury to the testicle, which is supplied by the autonomic system.

It is obvious, therefore, that if two or more viscera have central nervous connections with one group of somatic nerves, painful stimuli applied to either viscera may give referred pain in the same region. The somatic nerves forming a common path for the transmission of painful sensations. This is a point of great importance in interpreting the significance of any referred pain, and we find that clinical experience sustains the physiological theory. In order, therefore, that we may properly interpret pain as a symptom of renal disease, it becomes necessary to know the innervation of the kidney and ureter, and also of those organs which derive their nerve supply from the same central source. The kidney and ureter are supplied by the autonomic system, and their nerves have connection with the central nervous system in the tenth, eleventh and twelfth dorsal, and first lumbar segments of the spinal cord. The referred pain, therefore, would lie in the area supplied by the spinal nerves arising from these segments. The further caudad the lesion, the lower will be the pain in the referred field. In this way we account for the pain in renal colic radiating downward and forward, along the groin and in the testicle. Again, it may be referred along the course

of the tenth dorsal, and simulate gallstone disease, which occurred in a recent case seen by the writer.

Pain over the area supplied by the descending cutaneous branches of the ileo-inguinal (hip), is also seen.

Not only do we have pain in these regions, but we also find tenderness, and, at times, hyperesthesia of the skin supplied by these nerves. MacKenzie called attention to the fact that, while the pain may be referred to the testicle, hyperesthesia of the skin of the scrotum is not present because it is supplied by the sacral nerves. Reference to the accompanying diagram, in which I have attempted to show the central nervous connections of those organs which most frequently give rise to referred pain simulating renal disease, may be of some assistance in connection with a study of this subject.

It is well known that, in cases of chronic prostatitis and prostatic hypertrophy, there may, at times, be attacks closely simulating renal colic. The rule is, however, for the referred pains of prostatic disease to lie in certain areas supplied by the sacral nerves. Now, let us see what the anatomical and physiological bases of these symptoms are.

The prostate derives its nerve supply from the tenth, eleventh and twelfth dorsal, the first, second and third sacral, and fifth lumbar segments of the cord. It would seem that the most intimate connection with the central nervous system lies in the sacral portion of the cord, but, under certain conditions, the painful stimuli may be conducted to the lower dorsal segments, and the pain be very similar to that of renal disease. A point, then, in the differential diagnosis would be the presence of a preponderance of sensory symptoms in those areas supplied by the sacral nerve, namely, buttocks, legs, perineum, etc.

Affections of the uterus and adnexa give rise to a variety of referred pains, experienced, for the most part, in those regions supplied by the sacral nerves. Sometimes, however, tenderness over the kidney, with pains radiating therefrom to the inguinal region, is observed, and it becomes a problem not always easy to determine whether we are dealing purely with some disease of these organs, or whether there is also a renal complication. I have seen cases of this kind where, on

account of an associated cystitis, the diagnosis was extremely uncertain.

The following case serves to illustrate this:

A primipara, delivered by forceps. Some infection of the uterus and adnexa resulted. The patient was unable to void urine for several days, and it was necessary to catheterize her. This was done by a member of the family and a mild cystitis developed. Subsequently she complained of severe pain in the right lumbar region, with marked tenderness over the kidney. The pain radiated along the course of the ilio-inguinal nerve. The dorsal pain was not, however, limited to the kidney region, but extended well down over the sacrum and buttocks. While there was pus in the urine, and distinct evidences of cystitis, I was not fully satisfied of a kidney infection. After thorough cleansing of the bladder, the ureters were catheterized, and the urine obtained from both kidneys, free from pus or other evidence of renal disease. There was no displacement or enlargement of the kidney, and the pain, therefore, must have been a referred one from the diseased uterus and adnexa.

Another condition, not inflammatory, illustrating the same point, is shown by the following case:

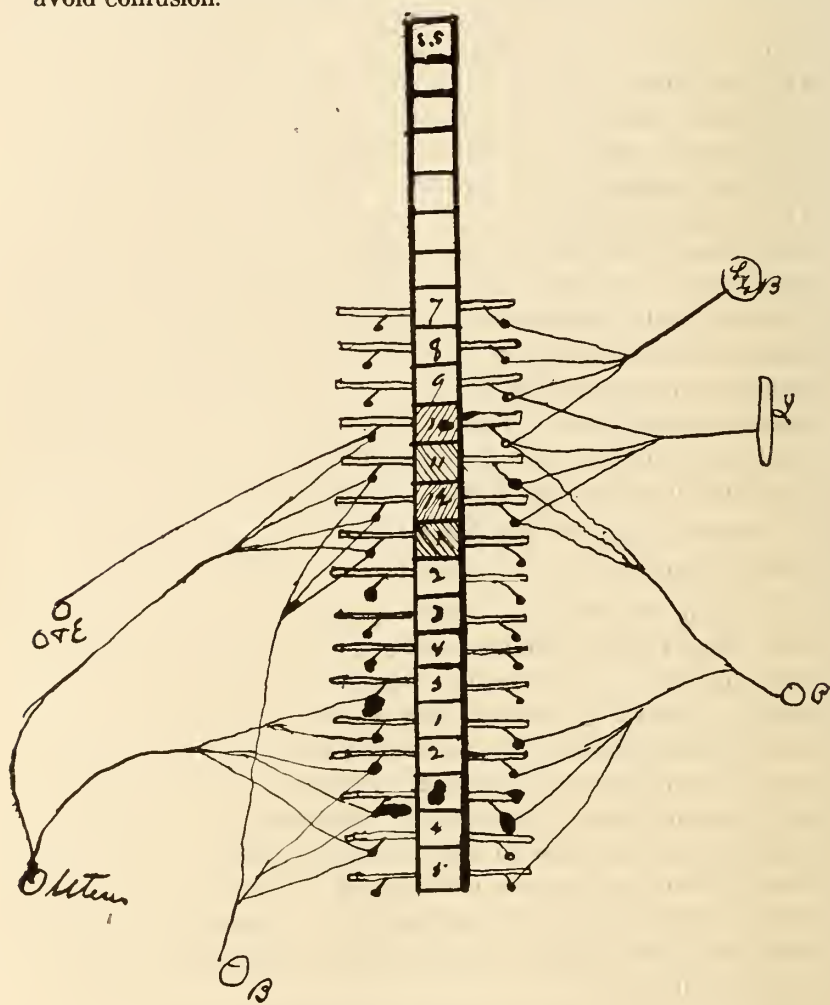
Woman, 40 years old, beginning carcinoma of the cervix, with attacks closely simulating renal colic. Urinary findings were negative. Hysterectomy was done, left ovarian vein found to be greatly enlarged and distended. The patient has been entirely well and free from pain since operation. There was no obstruction to either ureter; the left kidney was small and showed clearly the infantile lobulations. Whether the referred pain was due to the diseased cervix, or whether it resulted from the varicose condition of the vein, I am unable to say. The point to be emphasized is, it stimulated a left-sided renal colic, and yet was not due to disease of either the kidney or ureter.

Reference to the diagram shows that the uterus, like the prostate, has a double innervation; one, and apparently the principal one, in the first, second, third and fourth sacral, and fifth lumbar segments, and the other in the tenth, eleventh and twelfth dorsal, and the first lumbar.

This figure is diagrammatic only.

The shaded areas represent the segments from which the renal nerves arise.

Sympathetic ganglia are represented as attached to each pair of spinal nerves which is not strictly correct, but is made use of to avoid confusion.



- L.—Liver
- G. B.—Gall Bladder
- I.—Intestines
- P.—Prostate
- O. & E.—Ovary and Epididymis
- U.—Uterus
- B.—Bladder

The ovary and testicle form central connections with the tenth dorsal, and possibly also with other of the lower dorsal segments, since painful affections of these organs produce pains referred to the renal field.

Attention has already been called to the similarity of renal pain to that of gallbladder disease. Reference to the diagram will show that the gall-bladder receives a part of its nerve supply from the tenth dorsal segment, which also gives fibres to the kidney. An enlarged gallbladder, displaced well to the right, may be mistaken for a displaced and enlarged kidney. The pain may be very similar, and differential diagnosis is, at times, extremely difficult. An acute appendicitis is not usually mistaken if the appendix lies in the usual position. If, however, it have a retro-cecal attachment, the question of renal disease may arise. In certain affections of the kidney, chronic in character, especially those in which there is slight mobility of the kidney, it is not uncommon to have well defined areas of pain over the abdomen, often in the appendiceal region. Kelly, of Baltimore, lays great stress upon this symptom and the importance of injecting the ureters as a diagnostic aid. He maintains that, if the pain be renal in origin, the distention of the kidney pelvis with a sterile solution will elicit the pain. Ordinarily, the referred pain of renal disease is restricted to the above mentioned, well-defined area. It may, however, extend beyond these limits. This occurs practically in two conditions. First, where there is enlargement or displacement of the organ; and, second, where the pain is unusually severe or persistent. In the first case, the kidney, by virtue of its abnormal position or size, may exert direct pressure upon lumbar or sacral nerves and give rise to pain in the area of distribution of these nerves. This occurs when there is enlargement of the viscus, as in tumor, cyst, hydronephrosis, pyonephrosis, etc. When the pain is unusually severe, or when persistent, there may be a radiation of the stimulus to other centers, and pains will be referred to these regions. It is unusual for these pains to be referred to the thorax, but rather common for them to extend to the sacral areas.

In addition to the above causes of pain in this region, we must add affections of the spinal column and cord. Caries of

the lower thoracic and upper lumbar vertebrae may lead to an error of diagnosis if care is not taken to make a careful examination of the spinal column. The same be said of spondylitis deformans. Either of these conditions may give rise to symptoms, which, on the surface, simulate disease of the kidney, but close observation will detect the deception.

Affections of the spinal cord, such as tabes dorsalis, may lead to errors in diagnosis.

And, last, but not least, neurasthenia must be considered. This disease, with its protean manifestations, may simulate any intra or extra-abdominal condition. I have recently seen two patients, both of whom had been subjected to a double oöphorectomy when young, suffering from severe pain and tenderness over the kidney. In neither was there any other evidence of renal disease. The presence of other marked nervous symptoms enabled me to arrive at a diagnosis of neurasthenia.

There is one other point to be considered in this connection; namely, the presence of severe gastro-intestinal symptoms associated with acute surgical conditions of the kidney. The intense nausea and vomiting, great abdominal distention and marked prostration, often with abdominal pain, make a clinical picture difficult, at times, to properly interpret. The history of the onset, and careful physical and urinary examinations, will generally reveal the true nature of this disease. As might be inferred, the nervous connection between the intestinal tract and kidney is close.

In obstructive lesions of the lower urinary tract, renal pain, resulting from the back pressure, is very common. In stricture, enlarged prostate, tumor of the bladder, etc., this pain may strongly suggest some lesion of the kidney, and in these conditions the danger of infection is a contra-indication to ureteral catheterization, thus depriving us of one of our most valuable methods of diagnosis.

It will be seen, therefore, that, while pain is an important symptom of surgical disease of the kidney, it is equally obvious that we may be led into error if we attach too much importance to this one symptom. If the pain be due to renal disease, there will be other evidence pointing to a kidney lesion. Physical examination may show the kidney to be tender, enlarged, dis-

placed, or movable. An examination of urine may reveal pus, blood, albumin, etc., thus pointing strongly to the kidney as the seat of pain. There may be anomalies in the amount of urine and the frequency of urination. It frequently becomes necessary to employ the cystoscope and ureteral catheter to determine the source of blood or pus, i. e., whether it is of urethral, vesical, or renal origin, and if of renal origin, whether one or both kidneys are involved.

It is also plain that, unless the evidence gained by these methods is absolutely convincing, a careful investigation of every one in having the same central nervous connection as the kidney is imperative.

The important points may be briefly summarized thus:

1. Is the pain limited to the renal field?
2. If not limited to the renal field, is the pain of sufficient intensity, or prolonged, to cause radiation to adjacent fields?
3. Is there any evidence of disease of those organs having a similar central nervous connection as the kidney?
4. Is there other evidence of renal disease, as shown by painstaking physical examination and urine analysis?

THE STATUS OF NITROUS OXIDE-OXYGEN ANESTHESIA.*

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I believe that no one subject of direct interest to the profession has occupied more medical journal space in the last two or three years than nitrous oxide-oxygen anesthesia, and it will be the aim of this brief paper to put before you in-so-far as the opinions of some of the men who have done most with it determine, its present and future status.

Of course the aim is toward the model, ideal anesthetic, and the method under discussion is thus hailed by the over-enthusiastic; not, understand, as a mere makeshift method, necessarily unsatisfactory, and used in a very few cases because of some special contra-indication—real or fancied—to

*Read before the Louisville Society of Physicians and Surgeons.

the older and established methods, but rather as a substitute for these methods, applicable to operations of all kinds, and of any time duration.

Certainly we, who are not in position to do or see this work first hand, can profit by the opinions of the pioneers.

The literature on this subject is so voluminous that the work of selecting the extracts used was extremely difficult, if the paper were to be as brief as the writer wanted to make it; but at least most of it comes from men who have probably the highest claim to authority. The extracts quoted are from writings from about two years and a half old nearly down to date.

Without going into the history of the method, let us look at some of the claims made for it, considering it in free and open competition with chloroform and ether.

1. SAFETY.—It is sufficient to say that nitrous oxide as used for short procedures, teeth extractions, etc., has long been recognized as absolutely the safest agent known. Hewitt found records of but seventeen deaths from 1860 to 1900 while he found thirty from ethyl chloride in Great Britain alone. Thomas, of Philadelphia, administered it 271,940 times with one death. F. K. Ream, of Chicago, says: "It is an established fact that the only case on record of death from the administrations of nitrous oxide was occasioned by the administration of gas alone, and that death has never occurred when nitrous oxide combined with pure oxygen has been administered."

Chas. K. Teter, of Cleveland, says: "Nitrous oxide-oxygen forms undoubtedly the safest anesthetic now known, and is more free from after effects than any other. Following its use no degenerative changes take place in the system so far as we have yet discovered. I have given it in all stages of degenerative conditions and have never had complaint that the patient was rendered any worse."

Crile says, among other things in his report: "As to the relation of these two anesthetics, nitrous oxide-oxygen and ether, to surgical shock, observations have been made in operations upon all important parts of the body, excepting the central nervous system and the thoracic viscera. There is quite certainly less shock under nitrous oxide-oxygen anesthesia. In

certain handicapped cases, nitrous oxide-oxygen anesthesia is strikingly safer than ether."

S. Griffith Davis, of Baltimore: "It is admitted by every anesthetist and surgeon that nitrous oxide-oxygen is the safest anesthetic known, and by carefully eliminating such cases as strongly contra-indicate its use and administering the gas with the proper percentage of oxygen the mortality has been reduced to a minimum."

Peairs, of Milwaukee: "When oxygen is administered with gas it is much safer, and I am able to find only one death reported from the anesthetic," also: "Post-operative complications such as pneumonia, bronchitis, nephritis and acidosis sometimes follow the administration of ether and chloroform. As regards these complications the nitrous oxide-oxygen combination has a distinct advantage." In contrast to the above quotations, which are really representative of the majority found, an occasional note of warning is sounded. Thus Dr. Fred B. Marshall, of Chicago: "The question of the safety of nitrous oxide-oxygen anesthesia has not been decided." He further intimates that the method as used in major surgery is too new. He is, on the whole inclined to be conservative, and says further: "We do not know what the permanent effect of the two-hour administration of nitrous oxide-oxygen is going to be on the hemoglobin after a long period of time."

McMeehan, of Cincinnati, who edits the department of anesthesia in the *Lancet Clinic*, abstracts Crile's report, from which I quoted above, and is laudatory in the main, but says: "It must not be concluded that nitrous oxide-oxygen is absolutely devoid of any and all danger."

Bevan refers to several deaths under this method when heart lesions were present, and McMeehan again in the same article quoted, before he closes, says: "Also, now that this form of narcosis will be extensively used in anesthetizing the most desperate cases, it is only reasonable that its mortality will increase. Human ingenuity will never be able to entirely solve the problem of vital resistance in each and every operative case, and now that surgery is constantly invading new and more vital realms, and operators are giving more and more patients their last chance of recovery, anesthetic deaths are bound to

occur more frequently in spite of every precaution taken, even by the experts.

However, when not absolutely contra-indicated by the nature of the operation or the condition of the patient, the nitrous oxide-oxygen technique or narcosis is the safest form of anesthesia now known for general surgery."

2. GENERAL APPLICABILITY OF THE METHOD TO MAJOR SURGERY.—This as regards the degree of anesthesia obtained, length of time it may safely and satisfactorily be administered; character of work that may be done under it, etc. In looking over many case reports, the most frequent objections found are: 1st, that a complete muscular relaxation cannot be depended upon and indeed is rarely achieved; 2nd, cyanosis. Regarding the question of relaxation, I will again quote Teter: "As a rule when we begin to work with surgeons in laparotomy or other extensive work, they require relaxation, but after they get used to this anesthetic, and accustomed to a little rigidity * * * they put up with these factors on account of the patient being in better condition * * * now they find that rigidity throughout helps more than it hinders." Our personal experience with surgeons is that they all want absolute muscular relaxation and feel decidedly handicapped when forced to work through rigid abdominal muscles. The cyanosis is caused by lack of oxygen, and, as it appears from time to time, may be dissipated by slightly increasing the amount of oxygen. It is not a danger signal and arises from the fact that nitrous oxide must be given nearly pure to produce anesthesia, which it does by its own anesthetic properties, and not by suffocation.

We find that the method has been used with safety and satisfaction for the performance of nearly every operation, and for periods up to three hours. Bevan gives a long list of operations for the performance of which he deems the nitrous oxide-oxygen especially adapted. These include the draining of empyemas, exploratory laparotomies, gallbladder work, urinary bladder work, kidney work, gastrostomy, enterostomy, and many others. It seems to the writer that the list was chosen rather hap-hazard and at random, as some of the procedures he names, especially work in the upper abdomen, where relaxation is most desired and most difficult of achievement, are least

suitable to nitrous oxide-oxygen. It seems futile to choose a list of operations, when so many other things are taken into consideration than the character of operation to be performed. Hazzard says the method can be used advantageously in about one-third of all surgical work.

Let us look at its advantages and contra-indications, the method of its administration, and close with the writer's personal conclusions and opinions. First, its advantages and special indications—Lack of discomfort to the patient, rapid induction of anesthesia, rapid and complete recovery, comparative freedom from post-anesthetic vomiting and greater safety as to lung and kidney complications, because of its almost immediate elimination. Second, contraindications—Theoretically; arterio-sclerosis heads the list, though I believe with Ream that by "double diligence and with pure oxygen, even these patients can be safely anesthetized." Cardiac dilatation, marked cardiac hypertrophy, any valvular disease where compensation is otherwise than perfect, very young children, marked pulmonary emphysema. Though not contra-indicated, I have found it unsatisfactory in extremely fat people and big active muscular men as laborers, alcoholic subjects, athletes, etc.

And now what is the method? It is the administration of nitrous oxide gas in conjunction with a small proportion of oxygen, five to fifteen per cent. It has been clearly shown that with this agent, comparatively satisfactory anesthesia accompanied by very little cyanosis may be administered in selected cases for practically any surgical procedure for periods of time at least up to three hours (the longest period I found reported). The nitrous oxide is the anesthetizing agent. The oxygen is added to overcome the asphyxial effects of absolutely pure nitrous oxide. It is used instead of air because the addition of enough atmospheric air to furnish the necessary oxygen so dilutes the nitrous oxide that anesthesia is less profound. The gases are administered by means of any of a half dozen or so apparatus on the market. The gases are obtained in iron cylinders which are heavy and cumbersome to take from place to place.

The conflicting opinions found in the literature, but show, it seems to the writer, that the method has hardly found its per-

manent field as yet. We see it hailed by the enthusiasts as the long sought for ideal anesthetic. We find the extremely conservative on the other hand, who give it a limited field of use, and somewhere between the two points it will find its ultimate place. Some considerations aside from its real merit will retard for considerable time, even its deserved popularity, viz: The expense of its administration, the necessity of a skilled anesthetist, that it is not a method for a novice—and its inconvenience as to portability.

The writer will close with a brief resume of his personal experience with the method and his general conclusions. He has given nitrous oxide-oxygen only about 150 times, with excellent satisfaction on the whole. He has used it principally in two classes of cases. Short operations up to ten or fifteen minutes' duration, for its general convenience in these cases and prolonged operations where he considered the risk extra hazardous and the older established agents decidedly contra-indicated. The longest time that he has administered this agent or agents is fifty-five minutes and this administration was on the whole fully as satisfactory as any of those administered for a shorter period.

He desires, at present at least, to be identified with the conservatives. He believes that in this method we have simply one more weapon added to the list from which, when our judgment is taxed we may choose. He believes it has a permanent place in the armamentarium of the careful, conscientious anesthetist. He does not believe that it will soon entirely displace the older and simpler methods. In the great centers of population, where large endowed hospitals are in a position to sift everything to the bottom, and where men may work with no other idea than that of scientific investigation and achievement, it will ultimately find its proper level.

The Masonic Temple.

Why does a lawyer demand a retained fee in advance, while a physician is fortunate to receive his pay after he has cured his patient, The attorney is not positive he can win the case for which he is retained, nor can the medical man guarantee a cure in every instance. Why this difference in the relative treatment by the laity of doctor and lawyer?

LICHEN PLANUS*
WITH REPORT OF CASE.

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Lichen planus is defined as a chronic dermatosis inflammatory in nature, characterized by polygonal, glistening, flat topped or umbilicated papules of a red or violaceous hue.

The etiology of the disease is obscure. It is, as a rule, found in subjects of nerve exhaustion, over work, especially mental strain, anxiety, and profound grief. That it follows trauma, at times, is best demonstrated by its breaking out along the line of scratch marks.

The disease is not common, and, though it is claimed to form one per cent. of skin cases, it is almost always brought to the notice of the observer while others of a milder and more common type are not.

While the consensus of opinion is that it is found more frequently in the female in this country, the author has seen nearly twice as many cases in men than in women.

It is found in the better classes of society and usually during the second decade of life, though cases have been reported as early as six years.

The lesion of lichen is a characteristic papule from one-sixteenth to one-eighth inch in diameter, in the beginning, of a red color, but shading as it grows older, into a purple. It is flat and at times slightly umbilicated. The borders are angular or polygonal and are very clean cut. The top is not scaly but is covered with a film which gives it the characteristic, waxy appearance. The lesion is very rarely capped with a vesicle but to the casual observer this film is often mistaken for one.

The original lesion does not enlarge and though patches are seen they are simply a grouping of the individual lesions. Though complications, such as excoriations, scratch marks, crusts, or exematoid eruptions may mask the true nature of the disease, by close examination of the entire body if necessary, the typical lesion can nearly always be found.

*Read before the Vanderburg County Medical Society.

The lesions may be discrete, grouped into patches, or arranged in circles or straight lines. This latter arrangement follows scratch marks and is quite characteristic of the disease. It was once thought that these lines followed the course of the nerves but this is not the case, since they occur independent of nerve distribution.

The rash is rarely generalized and never universal. Its seat of predilection is the flexor surface of the wrists and fore arms and the lower leg. It is also seen, at times, upon the mucous membranes and there looks like a point that has been touched with nitrate of silver. Occasionally it is seen upon the glands penis.

There is a variable amount of itching, the intensity depending upon the acuteness of the disease. In some of the more acute cases it becomes intolerable, causing loss of sleep to such an extent that hypnotics must be used.

Since this paper is for the purpose of bringing out a typical case, we will not discuss the varieties but will merely consider the typical form.

In diagnosing this disease there are but three other lesions that are apt to become confused with it, viz: psoriasis, papular eczema, and miliary syphiloderm. From psoriasis it can be distinguished by the character of the scales, the site of the lesion and by the growth of psoriasis being peripheral, while lichen grows by the addition of new papules. In eczema the character of the papules are different and there are always a few vesicles. In the miliary syphiloderm there are concomitant lesions with glands, etc.

Lichen invariably leaves stains that persist for a considerable length of time but are not permanent.

In the milder cases there are little or no constitutional symptoms but in some of the more acute types, from loss of sleep and worry there may be some disturbance.

The seat of the lesion is in the upper corium. There is cell infiltration, enlargement of the papillae, proliferation and broadening of the rete, as well as hyperkeratosis. The depressions, though thought to be connected with the sebaceous glands, correspond to the insertion of the muscoli arretores.

In the treatment of this disease it is all important to look

after the general health of the patient. Absolute rest, more especially mentally, good plain food, and tonics are indicated.

The drug that has found greatest favor is arsenic, which may be given in any of the various ways, but the injection of the cacodylate of sodium is preferred by the author.

Next to arsenic comes mercury which is probably best given in the form of bichloride, either per oreum or by hypodermic injection.

In some cases, after all else has failed, very large doses of sodium salicylate give wonderfully good results.

Nascent oxygen has been suggested by giving potassium chlorate grs. V followed in one-half hour with nitric acid gttss. X.

Externally, everything that the pharmacopoeia holds has been tried, with more or less negative results, the most satisfactory drugs being bichloride of mercury, carbolic acid and menthol. The tar preparations are sometimes useful.

High frequency and galvanic electricity have been highly recommended. The X-ray is useful in some cases and is to be applied very carefully, as in psoriasis.

Liquid carbonic snow also has a place in the treatment of this disease.

The following case is reported because of its being typical in every respect:

Mr. E., age 46; merchant; well nourished. Family history good; previous history good. Present trouble, eruption on flexor surface of wrists. Patient gave history of business trouble causing a great amount of worry.

Case diagnosed as lichen and every thing that was recommended tried with absolutely no result. Finally patient had a nervous break down and was forced to go into the country for a few months, when the lichen disappeared under the use of Unna's ointment.

After coming back to the city and going into his work rather strenuously again, the lichen returned and stayed until six months later, when he gave up his business and went to live on a farm, when it again left and has not reappeared.

KERATOSIS SENILIS.

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This affection, as the name indicates, is one which is brought about by advancing years. The skin in elderly people usually undergoes changes more or less degenerative in character. These changes are usually manifest by a loss of elasticity, impaired vitality and resisting power and a tendency to exhibit discolorations and roughened spots. These are most commonly seen after the age of sixty. In some individuals, however, these degenerative changes may be noted somewhat prematurely so far as years are concerned, appearing in what we usually term the middle life period. These cases in which a premature senility of the skin is noted have probably been habitually exposed to harmful agencies which by their modifying power have left their imprint on the skin in such a way as to hasten the process.

One of the simplest forms of the senile changes in the skin is that of keratosis. The regions affected are usually those of the face and hands, particularly the former. The trouble makes its appearance usually in firm, slightly hyperaemic and pigmented spots. These are unattended as a rule by any annoying subjective symptoms. A little later when covered by scales or crusts itching to a slight extent is present. The crusts covering the parts involved are of a yellowish or brownish color and more or less greasy in appearance and to the touch.

When removed, which can as a rule be easily done by gentle rubbing, there is left a moist and reddened or slightly bleeding base. The crusts rapidly reform after their removal and their presence and persistence not only causes considerable disfigurement of the individual but also much annoyance and uneasiness.

For many years such a process upon the skin may go on, at times increasing somewhat in intensity, at other times stationary, or perhaps improving a little, never, however, entirely disappearing. Physicians generally regard this as a trifling ailment and pay no attention to it beyond advising possibly

some simple measures for cosmetic effect. In my opinion this is a great mistake.

The only object of this short paper is to urge more careful attention to a condition that is usually regarded as a trivial affection. I wish to emphasize the fact that these small spots of epithelial hyperplasia so often seen on the face and hands of elderly people oftentimes become the starting point of malignant disease. Bearing this in mind these apparently insignificant patches will be earlier and more carefully looked after thereby in many instances saving the patient much distress as well as prolonging his existence.

Several cases have come under my own observation where these lesions after remaining nearly stationary for a number of years have been gradually transformed into malignancy. This takes place in such an insidious way that it would be difficult to determine clinically when the change actually began. Were it not for this possible consequence the condition of hyperkeratosis in the aged would hardly offer peculiarities that would justify any special consideration.

The difficulties of diagnosis of this senile manifestation are very slight, these are frequently lessened when found associated with signs of senile degeneration in other organs. The condition might in some instances be confounded with the dry form of seborrhea, especially when occurring on the face. The most serviceable local remedies to be used in the management of these old age patches are sulphur and salicylic acid. They should be applied in the form of ointments of mild strength. The use of super-fatted soaps are beneficial. No plan of treatment is likely to bring about a permanent removal, although a judicious use of the remedies named may keep the trouble in abeyance and avert malignancy.

SOME POINTS IN BREECH CASES.

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In view of the fact that the foetal mortality in breech presentations is so high, 10 to 30 per cent., the importance of being well prepared to render intelligent assistance at the

critical period of the delivery of the after coming head should be well borne in mind. In the most frequent positions of the vertex and face, the long diameter of the presenting part is in the long diameter of the superior strait, viz, the first and third positions in the right oblique diameter, but in breech positions the majority of cases present with the short diameter in the long diameter of the inlet, that is the first and third positions, left sacro-anterior and right sacro-posterior in the left oblique diameter. Naegle in 163 pelvic presentations found 120 left sacro-anterior and 40 right sacro-posterior. Williams' *Obstetrics*, page 257, says: "Normally the breech engages in such a manner that the bitrochanteric diameter occupies the right oblique diameter of the superior strait, and accordingly the right sacro-iliac anterior and left sacro-iliac posterior are the presentations most frequently observed." If Williams is right then the head enters the pelvic cavity in breech cases with its long diameter in the short diameter of the inlet thereby increasing the difficulty of delivery of the after coming head in the majority of cases. We know that the great difficulty in breech cases is the delivery of the head, hence with its long diameter in the right oblique diameter as in vertex cases, the most frequent positions, labor is easier.

I believe in accordance with the laws of accommodation and adaptation which underlie the mechanism of labor, nature selects in normal cases the most advantageous positions. Most text books give the long diameter of the breech in normal or most frequent cases in the short diameter of the inlet.

When called to a case of labor a demand should be positively made to have hot and cold water upon the physician's arrival. Every practitioner of experience will remember having been called in the "wee small hours" to a lying in room and no water hot or cold ready for immediate use to wash his hands or resuscitate an asphyxiated child.

The success attending the safe delivery of the child in breech cases is due in a great measure to have hot and cold water at hand, the forceps, sterilized and ready to apply if necessary to the after coming head, hot cloths to wrap around the body of the child, an assistant to use pressure over the fundus downwards and backwards and traction avoided if possible, but when employed must be properly used.

An attempt should never be made to deliver the after coming head with the woman in the longitudinal position in the bed. The cross bed or Walcher position should be always utilized.

Haste in delivery of the breech by traction before the os is fully dilated is bound to be followed by increased trouble in the delivery of the after coming head.

OIL IN THE TREATMENT OF POSTOPERATIVE ABDOMINAL ADHESIONS.

W. G. Crump (Surg., Gyn., Obst., 1910, xi, 491) says that an ideal oil for this purpose should be readily obtainable, neutral in reaction and thus nonirritating to serous membranes, nontoxic, readily sterilized without material change in composition, highly lubricating so as to facilitate easy readjustment of the viscera and early peristalsis and slow in absorption, thus permitting of tissue repair ere it is taken up by the system. It should be eventually metabolized and thus removed after it has acted out its part, should facilitate free drainage of the abdominal cavity, and inhibit bacterial growth or preferably be germicidal. Above all, it should prevent postoperative peritoneal agglutinations and the formation of adhesions. These requirements the writer thinks are best fulfilled by an oil made from the fresh fat from the omentum and appendices epiploicæ of cattle, the preparation of which he describes. He recommends its use in cases where there has been excessive handling of the abdominal viscera, in all cases where adhesions are present or feared, in cases where there have remained extensive uncovered raw surfaces, in all septic cases to favor free abdominal drainage either to the pelvic or especially where it is desired to obtain patulous tubes. He avoids giving cool enemas or the application of ice-bags to the abdomen, as the oil readily stiffens up whenever the temperature is reduced below that of body temperature. In all bad pelvic and pus cases, it is essential to gravitate the oil to the lower part of the abdominal cavity, in which place it is most useful and where its absorption is longest delayed. The patients are therefore kept in the Fowler position for, usually, from seven to ten days.

Address

THE PRESENT POSITION AND VALUE OF THE EXPLORATORY OR OPERATIVE DIAGNOSIS.

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Mr. President and Fellows of the Massachusetts Medical Society:

What advantage has exact knowledge over the best non-operative diagnosis? The chief advantage is that the patient receives every chance that the nature of his lesion permits.

Under what conditions should the exploratory laparotomy be encouraged? Under conditions of failure to deduce a positive diagnosis in a reasonable time limit.

What element in the pathology has the greatest importance in the decision for or against exploration? It is the prognosis. Hence the advisability of the exploratory laparotomy is largely a matter of prognosis, and consequently the study and the teaching of prognosis is the most important theme in practical medicine and surgery.

Going farther, what are the most important elements of prognosis? There are two: the first is the pathology of the disease; the second, the experience of the observer.

My remarks today are but an elaboration of these few themes, as full as my time permits. Experience during the most active and interesting period of the last quarter-century of wonderful progress makes each topic prolific in ideas which seem to me of pre-eminent importance, especially to the internist and to the surgeon.

Before touching upon the exploratory or operative diagnosis, let me say a few words upon diagnosis in general.

While my object in this address is to advocate, under proper restrictions, an impregnable demonstration of the truth, yet I am fully aware of the disadvantages of a rule of universal or general or prevailing exploration, if adopted by the physician and the surgeon—by the men who of all others should

possess the highest skill in diagnosis. To assume that accurate diagnosis is impossible except through operative exposure of the disease, is to assume in our profession, both medical and surgical, a lack of perception, of deduction, of experience, and of common sense, which the facts do not warrant.

On the other hand, to assume that any human being possesses the power accurately to recognize that which can be recognized only by some miraculous power or instinct, is to assume the impossible. That an experienced observer may make an occasional guess that seems little less than instinctive, we all admit. In trying to repeat such a triumph, we know how often he signally fails.

We all have felt, a few times in our lives, the elation which the operative demonstration of our skill has proved, but the most extraordinary that success has been—the more unexpected and unfounded, unless upon instinct—the more have we known that accuracy has been but guesswork.

But in plain every-day cases we know well that we as a profession have acquired great skill in the recognition of conditions that twenty-five years ago would not have been recognized. A typical appendicitis, for example, a stricture of the intestine, an ovarian tumor with twisted pedicle, an extra-uterine pregnancy, a fibroid tumor of the uterus, an ovarian cyst—all these conditions are now recognized with an accuracy that approaches the certainty of a mathematical demonstration.

Even an acute pancreatitis with hemorrhage or a pancreatic cyst; a gallstone impacted in the hepatic or common duct; a stone in the kidney or in the ureter—even these, I say, usually permit a diagnosis so sure to be right that the surgeon feels, in the absence of contra-indications, fully justified in advising operation. In regions external and accessible he feels even more strongly than in the abdomen that his diagnosis is so accurate that he may base upon it operations of the greatest magnitude and importance. The breast, for example, the mouth and throat, the rectum and vagina—all present conditions accessible to sight and to touch, so that an exploration by which a growth, *e. g.*, is exposed is unnecessary. But in these regions easily within reach of sight and touch, we know that errors in diagnosis are not only possible but frequent. So

in the exploratory operations which expose abdominal tumors, we know only too well how often the surgeon is wrong—how the tumor of gastric ulcer is mistaken for cancer, the fibroid for cancer, the malignant stricture of the sigmoid for the chronic diverticulitis; and so on.

Now if it is so easy to mistake the disease when it is in our hands and fully exposed to view—whether in the breast, mouth, rectum, or vagina—and if after the most thorough exploration its nature is still uncertain, how futile it is to say that we can be absolutely sure that we are correctly interpreting histories, and the evidence of our senses in regions so deep as to be at times almost if not quite inaccessible.

Considerations like these bring us to the admission that, in spite of all knowledge dependent upon skill and upon experience, many a curable disease may be allowed to undermine health or destroy life itself, and that through an unjustifiable confidence in our skill in diagnosis and more especially in prognosis.

A familiar—far too familiar—example of the deadly results of over-confidence in a diagnosis of benign growths is seen in breast tumors. I have for many years taught the diagnosis of breast cancer, and have warned my students and readers against postponing operation, lest the disease prove malignant and get beyond operability. Has this emphasis availed me in always avoiding a stupendous and deplorable mistake myself? It has not. I have found in two or three young women tumors without the ordinary physical attributes of cancer; tumors which I either removed without taking also the whole breast, or which I left alone, but which soon showed signs of malignancy and were removed too late for permanent cure.

In tumors of the throat and tongue one can usually tell the probable nature of the growth. So it is in the uterus and the rectum. But the more experienced the observer the larger the number of cases in which he will recall too late recognition of the real malignant nature of the disease.

In the diagnosis and prognosis of real perceptible lesions, the question of exploration will be an easy matter, for it will mean that one of two or more possibilities will be present—a question of perhaps of cancer or ulcer of the stomach, of ova-

rian or fibroid tumor, of gallstones or duodenal ulcer, and the like. The really difficult case is the one in which the symptoms are wholly subjective, and in which there is not present a single physical sign. Even more difficult is the case in which the surgeon will not only find nothing that his art can relieve, but even a condition to which his exploration will add serious complications, as when he explores for appendicitis and finds typhoid fever, or worse, pneumonia; when he explores for an extra-uterine pregnancy and finds a normal one; when he explores for acute intestinal obstruction and finds nothing.

EXPERIENCE.

My work is so filled with the proofs of human fallibility that I do not have to go far back to find illustrations. I will take a case that I saw on the day before this was written. Since September, 1910, the patient, a young man, had been complaining of abdominal pain and loss of weight. He had been under occasional observation of a skillful practitioner of medicine and surgery. He was always "taking physic and complaining of rising pains." One Tuesday his pain became paroxysmal and severe. In a day or two it was so distressing that an eminent medical opinion was sought. On Saturday exploration showed an intussusception, which was successfully operated upon. Three months later a tumor in the right abdomen suggested malignancy.

The history of the case during the winter, with the presence today of a large, irregular, hard tumor in the region of the ascending colon, without fever or leucocytosis, suggested intussusception as a result of a tumor of the intestine in the first instance, like two cases of intussusception that I had seen.

In this most recent case, whatever existed or whatever persists, there arises the question of diagnosis; for all winter the abdominal symptoms, the cause of which might have been easily and safely demonstrated, ended in a pathological and mechanical complication of the very first magnitude and operative danger. True, the lesion was most skillfully and successfully treated, as far as the emergency went; but there remains a condition inexplicable and sinister, which an early operation would have demonstrated and possibly obviated.

And what was the objection to exploration in this case? What is the objection to exploration in all cases like this? The answer is the same—the unjustified dread of a surgical operation, an operation chiefly dreaded because of previous failures under diagnosis made too late for possible success, so late indeed that the briefest and simplest exploration proved fatal.

Scattered through my private records of twenty-five years are disasters of all sorts in acute and chronic lesions. In all these occurrences, more or less distressing, the one prevailing cause lies in the loss of timely opportunity.

Now, let us come forward and frankly admit the cause of surgical disaster. But first what do I mean by disaster? Death caused by operation and by nothing else; death following an operation which delay has made hazardous; death or disability caused by technical and avoidable errors, themselves the result of carelessness or of want of skill; death or disabilities incident to all operations per se, no matter how experienced and skillful the operator, and unavoidable through human fallibility or through the occasional and possible complications of disease; immediate failures owing to loss of timely opportunity, as in the postponement of operation in acute emergencies like appendicitis, perforated stomach, extra-uterine pregnancy, and tumors with twisted pedicle, infections of the mastoid empyemata, knee-joint infections, and Cæsarian sections, pancreatic and gall-bladder infections, and the late results of gastric and duodenal ulcer, renal infections, even strangulated hernia or torsion of the testicle. But of all, by far the most frequent and inevitable are the recurrences of malignant disease made probable or unavoidable by non-recognition of the call for relief in early symptoms, and the resulting loss of timely opportunity.

Let us not forget that we are discussing the place of the exploratory diagnosis in medicine and surgery. I have mentioned briefly that the chief indication for exploration is the experience of the past twenty-five years, with its failure thus far to convince our profession that diagnosis has not been sufficiently accurate thus far to permit us to grasp the situation—to permit the early application of the surgical remedy which symptoms are calling for, but which they far too often are calling for in vain.

Let me admit right here—not only admit for surgery and medicine, but claim as their greatest and proudest accomplishment, the wonderful development of diagnosis through operative demonstration of cause and effect. What was difficult in 1886—the diagnosis of appendicitis—is now almost child's play, even with its occasional mysterious inexplicable manifestations. Extra-uterine pregnancy; tumors with twisted pedicles; hæmorrhagic pancreatitis; gallstones and gastric diseases; deeply seated tumors, even in the heart, so to speak, of the brain itself—all these diagnosis are made with an accuracy that is marvelous.

And yet error in diagnosis, failure to recognize operative indications, make the adoption of operative demonstration, in my opinion, one of the most important questions of the present day.

Why is the exploratory diagnosis imperative, when I have just claimed for medicine this wonderful accuracy? It is imperative because the diagnosis, for accuracy, depend upon a development of the disease so marked that the characteristic symptoms are unmistakable—and, here is the real trouble, when unmistakable, they are often practically irremediable. Either some pathognomonic early symptom must be discovered or we must explore upon a suspicion which some common and early symptom creates.

Now what are the objections to exploration? They depend upon the locality to be explored. The chief area is the abdomen, and we know pretty well the dangers of simple exploratory laparotomy. They must, of course, be dissociated from the dangers of operation upon the pathological condition found. They are not great. Dr. Homans used to make it an essential part of his study of abdominal tumors to examine the patient under full anæsthesia. The experience of many years has shown to my satisfaction that the exploratory operation per se has dangers hardly greater than those of the ether examination. Considering the conditions sometimes found after bimanual examinations, I am not sure that an incision large enough for digital or manual examination, with careful and thorough manipulation, is not less dangerous than the forcible bimanual compression of the pelvic viscera, or the deep and forcible palpation, say, of the epigastrium or the flanks. After bimanual examinations I have sometimes found rupture of

cysts, of abscesses, of the intestine, of veins, and even of arteries, for I always make a pelvic, rectal or vaginal examination, or both, under full anæsthesia, before opening the abdomen, to discover contra-indications—if any exist—to operation.

The dangers are shown to be small when nothing is found—they are shown to be small by the hundreds of operations like that for chronic appendicitis, for simple ovarian tumor, for simple gallstones, and other uncomplicated operations even of considerable magnitude.

The chief objection, in fact, the only objection to the exploratory diagnosis is its possible failure to show disease. But if the exploration fails to show disease, so much the better. In suspected cancer of the stomach, what greater boon can the patient hope for than the demonstration that the disease does not exist, and that there need be no fear either of the disease or of a serious operation? It is no small satisfaction to be able to say that the symptoms exciting fear of cancer need no treatment for cancer. The less there is found, the less the danger and the greater the rejoicing. The greater the justification, the greater our thankfulness that the exploration has been made, and that the patient has had the best chance.

In other parts of the body than the abdomen, the objection to exploratory operation may be great or trivial. In the brain or spinal cord my experience would be against the exploration without a positive if not an impregnable diagnosis, because of the unavoidable danger to precious and vulnerable tissues by the slightest manipulations. There is the same objection to explorations of the thoracic and cardiac areas. To be sure, we have vastly less experience in these regions. Moreover, diagnosis in the early stages of disease is much easier and more positive.

Finally, in the explorations of external pathology, beyond the demonstration of benignancy or malignancy, there is little need of exploration. If any rule as to neoplasms is to be laid down, it should be in favor of destructive rather than of exploratory surgery.

Some days ago I was consulted by a woman of sixty who for a long time had been suffering from increasing spasmodic pain in the stomach. Examination of the epigastrium showed that the stomach was in a state of spasm. I went over the

case very carefully and advised operation in the near future. No tumor whatever could be felt. No positive diagnosis was made, excepting the diagnosis of something mechanical exciting acute and oft-repeated gastric spasms.

The case seemed to me one for exploration, whatever the diagnosis. The condition was clearly demanding relief. To spend time in studying the case would have been as lacking in common sense as it would have in the case of a boy who had capsized and was drowning.

Two days ago I operated on this patient and found a very unusual lesion. I have had one such case in my life before. In that case an eminent pathologist failed to name the disease in twenty guesses. It was cancer of the jejunum.

How are we really influenced by our experiences toward conservatism or toward radicalism?

There have been in the past few months several cases in which our prognosis has been so faulty that under similar circumstances we feel greater uncertainty than we did before, and whatever we have done, whether of radicalism or of conservatism, we have regretted our decision.

And it is experiences like these that really make the man a radical or a conservative in surgery. Few men can go through two or three unfortunate experiences in surgery—some not even one—without a permanent bias. I have always thought that Dr. Homan's courage and persistence in ovariectomies, after the loss of his first four patients was what made him the great surgeon that he was. I admit myself the awful discouragement that follows a fatal operation in a new field; but I am not sure that in the end it is not better for the surgeon and for his patients if the first few cases are difficult rather than easy.

As most surgeons must have observed, there have been during the past two months many strange infections from a source perhaps not fully determined as yet. I have had a few of them, and have felt their great responsibility to the full. And yet the question presented to me was whether to operate or not; whether the patient's chances were not, on the whole, better under medical than under surgical treatment. Three patients had abdominal symptoms. It was a question whether those symptoms were really caused by abdominal lesions or whether

they were referred to the abdomen from elsewhere. In the first patient the symptoms progressed favorably for two days and then suddenly became fulminating. The father and mother of the patient declined operation, and the boy died. The effect of this experience upon me was most depressing. I thought that we had allowed the boy to slip through our fingers with a peritonitis clearly indicating operation if not begging, as it were, for relief. Then came the experiences of others in which operation accomplished nothing. Two patients were brought to my attention. In the case of one—a boy like the one just mentioned—abdominal symptoms were present, but in a form so mild that I could not advise operation, though I had resolved that, no matter how trivial the symptoms, I would surely explore the next case. The symptoms immediately subsided. A third patient had symptoms strongly suggestive of appendicitis. I operated immediately. The appendix looked normal enough, but according to Dr. Whitney it contained a small ulceration. There was free bloody fluid in the abdominal cavity. The temperature rose in twenty-four hours to 104 degrees, where it stayed for forty-eight hours; and then subsided.

In three other cases, similarly introduced by tonsillitis, I found serious complications: in one a gangrene of the whole lower extremity, in a second a phlegmon about the hip, in a third a subelavan phlegmon.

The phlegmon about the hip resulted in an extensive gangrene of the fascia lata, with infiltration of the surrounding muscles and muscular interspaces—a condition which required deep incisions. The patient today is in a desperate condition of streptococcal systemic infection, and the prognosis is grave.

We are now at the end of a quarter of a century—the first—in which modern surgery has made its great advance. I date my own active work in the abdomen from 1886, when I performed my first deliberate operation upon the stomach and upon the gall bladder at the Massachusetts General Hospital. Although there had been for ten years more or less abdominal surgery, that surgery, as compared with that of the present day, was very limited. Operations were confined largely to ovarian tumors, and Dr. Homans did most of the work. From the pelvis and the ovarian tumor the surgeon naturally went

to other regions and to other diseases; and when Fitz described and named appendicitis, the surgeon, following and working with him, quickly learned to apply the benefit of mechanical treatment to all sorts of abdominal diseases.

Now that there really remains (so it seems) no other disease to conquer, no other abdominal area to explore, what is the lesson which we have failed to learn after so many centuries of professional work?

We have explored surgically every portion of the body. We can remove successfully—and to me it seems most wonderfully—the pituitary body, after a study of its physiology and symptomatology that permits a pretty sure diagnosis. We have seen, by thousands of explorations in various parts of the body, the connection between cause and effect, between disease and its manifestations, until diagnosis has become almost a science of mathematical demonstration. We have learned through experience to apply, with swift anatomical precision, the principle of asepsis so successfully that a simple exploratory demonstration of existing conditions, whether of health or of disease, is practically without mortality. If in explorations there is danger of death or disability or other disadvantage, we know the danger and can anticipate it, can estimate it as a part of the equation of error.

What is, then, the lesson that we have failed to learn so many centuries of professional endeavor?

We have failed to learn the lesson of human fallibility, and to appreciate the necessity for absolute demonstration. In a word, we have failed to use intelligently the exploratory operation under conditions which experience ought to have told us were otherwise inexplicable and filled with possibilities of failure and of disaster.

Although personally, and for the benefit of the patient, I wish to convince the men of large experience and strong conservatism of the truth of my views, I am well aware that my proposition is one that, backed up by such men may, if followed universally by every operator, well qualified or not, work harm; yet I am speaking the truth, and if my views are followed by those unqualified to carry them into actual practice, so much the worse, not for the views, but for the laws which

permit any one, whether qualified or not, to practice surgery. But that is another question. My object is to try to demonstrate the best course, assuming that those who will follow that course are well prepared to do so.

As far as possible I like to use arguments as near mathematical demonstration as possible. And it seems to me that, balancing in certain cases the advantages of the exploratory operation with its disadvantages, the operation may be proved with almost mathematical precision overwhelmingly superior.

Take one man's experience with breast tumors, as a familiar and easily demonstrated example. How does the harm of removing a breast tumor compare in, say, a hundred cases with the benefit? If I prove that the possible benefit to the patient is a hundred or but twofold, it seems to me that I have established the desirability of the exploratory operation.

I will first consider the reliability of diagnosis in breast tumors, when made by men of large experience. Judging by my own experience, which embraces more than 1,500 cases, a diagnosis of benignancy so positive that error is practically eliminated is impossible. I, for one, cannot make it, and I do not believe that any one else can. Certainly no man could satisfy me by his opinion, unaided by exploration, that it would be safe to leave a breast tumor in a woman over thirty. And in the case of any one near and dear to me I should never permit such a tumor to be left.

Now for the validity of my argument I must claim for myself ordinary intelligence and skill in taking histories, in making examinations, and in drawing conclusions; and I think it is perfectly safe to say that I represent the average physician and surgeon. If I cannot make the diagnosis by means of this ordinary intelligence and skill, I must be guided by some method of procedure that will eliminate this possibility of error.

My audience must remember that while admitting the possibility of error in diagnosis and in technic, with resulting disaster, I do not admit any considerable ratio of error. Our results are superb as far as the nature of cancer permits. But there is a chance to better them, and that chance lies in early diagnosis. The earlier the breast tumor is recognized, and the more thorough the operation, the better the result. Even if,

to bring about so desirable a thing, all breast tumors are explored, that exploration is practically without danger, per se, and has the advantage of certainty, which in benign cases banishes horrid fear—no mean accomplishment.

Now if I have established by the overwhelming arguments of experience the validity of my contention in breast tumors, how much more imperative is the exploration of cases in which the possible tumor is beyond the perception of the senses, as in most stomach, duodenal and gall bladder cases!

To illustrate the possibilities of surgery in diseases of the stomach essentially hopeless, suppose it were possible to attack cancer of the stomach surgically as early as I have demonstrated the disease in the course of hysterectomies, gall bladder, and other necessary operations, when there is but a wart at the pylorus, or a flattened thickening of the lesser curvature no larger than a ten-cent piece. Can any one doubt that resection of such an area would succeed immediately and permanently in curing a large number of patients who now have before them nothing but hopelessness and suffering? The present lamentable condition of gastric surgery is the result of our timidity in the use of the exploratory laparotomy. As common-sense men, what else can we do except to explore under suspicion, when we know that certainty of diagnosis in gastric cancer means a formidable and perhaps fatal operation, and, if the patient survives, an early recurrence? We must explore under the suspicion of epigastric disease if we do not under suspicion of disease in other organs. What we need in the diagnosis of surgical diseases of the soft parts is something as simple, effective, and safe as the X-ray in injuries and diseases of the bone, in calculi, and in foreign bodies. But that we cannot hope to have. Were it not for the greater dangers, the exploratory operation would give us a good substitute for gaining information. It would be even more reliable, and I am not sure that the fuller and more trustworthy information does not pay for the additional risk.

In a nutshell, my chief argument—that based upon experience—is that treatment based upon a diagnosis that must necessarily be fallible, instead of the right treatment, may be the wrong treatment instead of giving hope, it may take

away all hope. Diseases in all localities in the body may be subject to fallible conclusions and wrong treatment, or to no treatment whatever.

The chief question to be considered is that of end results—by what course of treatment are the end results, on the whole, the best? And by what course is the immediate danger the less, and the remote benefits the greater? Can there be any doubt what this answer will be?

I am aware of the inadvisability of encouraging the present tendency in all cases toward surgical treatment. But if surgical operations are performed that ought not to be performed there are still more that ought to be performed that are not performed.

The evidence of men of large experience, both medical and surgical, should be toward restraint, on the one hand, and encouragement on the other.

As affecting the question of exploratory diagnosis, the most important element is human fallibility. Human fallibility affects prognosis the more or the less as the methods of diagnosis approach mathematical accuracy, for we must admit, in surgical cases at least, that, given certain pathological facts, the prognosis is a matter of simple and impregnable deduction, almost as certain as is a process of subtraction or division in mathematics.

In diagnosis, as I have long ago remarked, the chief course of error lies in the demonstration of the facts. In illustrating this paper I mean to use chiefly the diseases of the epigastrium and right upper quadrant, for it is here that diagnosis is most difficult, and it is here where the most good can be accomplished by surgical methods of treatment.

Nothing is easier than to tell the outcome of treatment in this area, for if we know the diagnosis, we necessarily know the prognosis, whatever the treatment may be. And lest we lose the chance, great or small, of curing the disease, where cure is possible, we must establish beyond question the diagnosis, and that at a period when operation—if operation be possible—may be undertaken early.

On the one hand, great danger, and, with error, no possibility of relief; on the other hand, slight danger and great possibilities of relief.

The question that I am discussing has been the most important one throughout the years of my surgical experience. We must not be restrained too long by the conservatism of the past, or stimulated to excessive zeal by our hope for the future. The one thing that must be fairly and squarely and honestly met is human fallibility. Is or is not diagnosis a fallible human attainment, no matter how great the skill and the experience employed? Can there be the least doubt as to our answer? And in what class of cases is certainty of diagnosis the most essential? In the case of the disease that kills unless surgical remedy is applied and applied early, can there be the least doubt about the correctness of the answer? In chronic cases in which time for study is abundant, what is the wise course to pursue for both physician and surgeon?

Is it not the thorough study of the patient, the use of all modern methods of investigation, the painstaking trial of medical treatment? Can there be any doubt about the wisdom of this conclusion; and, considering the possibilities of suspected disease, what more imperative action is there than that of an exploration that will solve every doubt and make clear the future course of treatment? Who can object to the positive demonstration of cancer or its absence, when suspected at a period early enough to permit operative cure? It seems to me that no reasonable man can object. And if he does object, upon what grounds? Is it the danger of the exploration? If nothing is found, there is practically no danger, as every surgeon's statistics show. True, explorations that reveal advanced and hopeless cancer have an excessive mortality; but we are talking of the early suspicion and the timely opportunity that certainly provides.

Again, how much in pain, suffering, and death does it cost to make by exploration a positive diagnosis?

My questions and answers are founded chiefly upon conditions assumed to exist in diagnosis of the epigastrium and right upper quadrant, where remediable conditions are common. But if these conditions are common, their operative curability increases inversely with their age: the earlier they are recognized and remedied, the less the danger and the better the prognosis; the later the recognition, the greater the danger and the worse the prognosis. Can any one dispute this state-

ment of cancer of the stomach, of ulcer with mechanical destruction of function (stricture of pylorus), of gallstone disease, and of other rarer mechanical lesions?

Let me repeat my question in a little different form. Does the patient pay—is he asked to pay in pain, suffering and danger—any exorbitant price for information that will demonstrate fully and settle forever all doubts as to diagnosis and the proper course to follow? And, could so grave a question in any other profession or occupation be settled at so slight a cost, would there be a moment's hesitation?

The skill of the modern surgeon in these questions of life and death, happiness and sorrow, provides a solution that should be eagerly grasped—grasped with a heart full of gratitude and appreciation that such a blessing at so slight a cost is possible.

On the other hand, a weapon as prolific of good when rightly employed must be used with great intelligence and skill lest it do harm in careless hands. A weapon in the hands of those who know how to use it is safe; in the hands of those who do not know how to use it, may be dangerous. Let enthusiasm be tempered with doubt, and a full realization of what exploration means, and of the great skill and experience necessary to interpret what it reveals.

If we are to make any progress toward the cure of these diseases, which, through the difficulties of early detection, are now well-nigh incurable, in what direction does that progress lie? Is there any remedy thus far found except the operative demonstration of the pathology long before the pathological process has invaded hopelessly anatomical areas essential to life?

I admit that I see at present no reasonable remedy—no remedy at all, in fact—but the exploratory operation. But, going to the root of the matter, the real problem for us is to make the exploratory diagnosis unnecessary. One of the chief objects of professional endeavor should be the early diagnosis. But all that we at present can do is to establish “probable cause”—to bring forward an indictment, as it were, against the stomach, the gall bladder, the duodenum, or the pancreas, in which sufficient evidence is accumulated to show that there is justification for surgical action.

The community, the general practitioner, the internist, the surgeon must be alert to discover the first sign of organic disease. I strongly hope that through the multiplication of early demonstrations, especially in the course of operations commonly performed—such operations as those for uterine fibroid, ovarian tumor, gall-bladder lesions, appendicitis—through such observations I strongly hope that we shall learn to detect and remedy these numerous mechanical conditions which at present are explored only to be abandoned as hopeless. But in our endeavor to strike straight and hard at the cause of impending danger, we must expect for a long time to strike many ineffective blows, many blows wide of the mark.

Thus far, as surgery has progressed, we have approached a perfection of technique that permits extensive operative demonstration without danger, or with danger so slight that it is negligible. I see no way to get above the present level of diagnosis except, in the presence of a strong fear that some condition incompatible with health and life is attacking a vital organ, to explore and find out the truth as soon as that fear has become a strong suspicion.

Certainty is worth a little risk, especially when certainty means a possible demonstration of disease at a time when it is easily curable.

For these reasons I must admit my strong inclination, under the restrictions of common sense, to the operative demonstration and diagnosis of suspected surgical diseases.

I venture to propose the following conclusion:

Operative investigation of suspected disease remediable only by mechanical or surgical means, when used by those fitted to make it, deserves the indorsement of physicians as well as of surgeons. Before resorting to the exploratory operation, all reasonable means of diagnosis should be exhausted, except in cases of emergency from obscure causes in which the necessity for mechanical remedy is self-evident.

In tumors of uncertain nature, especially those associated with areas or organs subject to malignant disease, and especially at the cancer age, exploratory demonstration of the tumor, and, if necessary and possible, microscopic demonstration of its nature, should, in the absence of contradictions, be the rule.

In the multiplication of indications for mechanical and

operative treatment, surgery has become a highly specialized art and broad science, for the practice of which special preparation is essential. For the practice of surgery, the study of the morbid anatomy of surgical diseases in the living as well as in the dead, and its relation of symptoms, especially those diseases producing mechanical symptoms, should be, with the study of normal anatomy, the surgeon's chief endeavor.

Finally, the exploratory diagnosis should be restricted in its application in those cases in which certainty of diagnosis is essential to relief, and in which, from lack of surgical remedy, error means disaster or death.—*Boston Medical and Surgical Journal*.

PURPURA.

J. S. Thacher, New York (Medicine Record, April 15, 1911), distinguishes two great types of true purpura, that due to hemophilia, and that due to other causes, of which rheumatism is the most frequent. In hemophilia the hemorrhagic condition is hereditary, the blood having an increased coagulation time. The other form is called idiopathic purpura, and is very varied in its clinical picture. It includes hemorrhagic and urticarial eruptions, large ecchymoses, localized edema, arthritic lesions, crises of vomiting, abdominal pain, diarrhea, etc. In some cases the joint symptoms are prominent, forming a group called purpura arthritica. Hemorrhages into the internal organs may be so severe as to cause gangrene. Nephritis is not uncommon. Endocarditis and pericarditis are seen. No alteration of the blood-vessels is found. Some cases seem to be of bacterial or toxic origin. The author describes the methods of studying the coagulation of the blood. In purpura the coagulation time is normal. Treatment of purpura is unsatisfactory.

In injuries of the elbow with considerable effusion, when an x-ray examination is not available, it is frequently a good plan to anesthetize the patient, forcibly flex the elbow-joint, and maintain it in this position by bandaging the wrist to the chest at the opposite sternoclavicular joint—the so-called Jones position.

Recent Progress in Medical Science

SALVARSAN.

S. J. Meltzer, New York (Journal A. M. A., June 10), says that salvarsan is not simply a new remedy for syphilis but that it marks an epoch in medicine, a new departure and new principle in therapeutics. He reviews the rapid fall and slow rise of therapeutics during the new medical era, the nihilism which prevailed in the middle of the last century or a little later and the recovery from the reaction with the founding of the science of bacteriology and the acquisition of the knowledge that many symptoms of disease are only Nature's attempts to cure itself. He is afraid that many, at the present time, are still nihilists as regards drugs. His own view is summarized in the statement that we possess many drugs for the treatment of symptoms of disease and are well provided with good advice as to how to treat the patient, but we have at our command extremely few remedies for the treatment of the disease itself or its chief cause, and, what is worse, he says, a great many of the better class of physicians are still dominated by the old fatalistic doctrine and hold that we can diagnose a disease but that we are still unable to cure it. Mercury and quinine are almost the only specific remedies, and both of these were discovered empirically, as he points out. Salvarsan is the first instance in the history of medicine of an efficient specific, scientifically developed and by the mental efforts of a single scientist. It is a specific remedy against a group of diseases caused by protozoan spirilla: it is a spirillicide. Ehrlich's chemotherapy is based on a few comparatively simple assumptions. He assumes that a substance exerts a definite action on a living animal cell only when it becomes intimately connected with this cell or fixed by it, and this can only happen when the cell has a receptor for it, which he calls a chemoreceptor. Various cells have various chemoreceptors, and when a chemical substance is introduced into an animal body it becomes unevenly distributed among the tissues, according to their receptive powers. If the pathogenic organisms in the system possess special chemoreceptors for certain substances they would take up such sub-

stances instead of their being taken up by the cells of the host, and if their being thus taken up is destructive to the special microorganisms it would lead to its extirpation in the system. By successive attempts at introducing chemical substances to be taken up by certain microorganisms such organisms might be destroyed, leaving the animal host comparatively unaffected. This was Ehrlich's method, and salvarsan was the result of the 606th attempt with the arsenical preparations, it being found especially destructive to the spirillum causing syphilis. It destroys all spirilla, however, and differs from mercury in this respect, the latter being inimical only to the syphilitic parasite and also, unlike salvarsan, causing cachexia in the patient, which is a serious drawback. It has also been found that, in contrast with certain other arsenical spirilloclides, salvarsan does not produce strains of spirilla resistant to its effects. In human syphilis, however, one injection is not found to be always curative, and the above facts show that it is not necessary to try to destroy the whole of the parasites at one injection. For this reason Meltzer advises the administration of several small doses at regular intervals into the lumbar muscles, in very dilute solutions. In this way as well as relapses, this method could also be utilized by the general practitioner.

SURGICAL INDICATIONS IN LESIONS OF THE LARGE INTESTINE.

Russell S. Fowler, Brooklyn, N. Y. (Medical Record, July 22, 1911), considers the indications for abdominal operations in various conditions of the intestines. In acute obstruction there is a demand for immediate operation, and the bad results that have been obtained in this condition are due to the lateness of the diagnosis made by the general practitioner. A symptom that is always present and aids in the diagnosis is the intense, agonizing, initial pain. When morphine is not given, disguising the symptom, this is an aid in diagnosis. Localization of pain will often be the best evidence of an abdominal lesion. In chronic obstruction abdominal examination shows a tumor, and rectal digital examination may reveal a cancer. All cases of increasing constipation should be carefully investigated. No

matter what mechanical displacement of the intestines is present operation is to be done only when the function of the organ is interfered with seriously. Suspensions are unsatisfactory, and resection gives a possibility of stricture and leakage. Proper technique will avoid stricture, and leakage may be obviated by careful suturing.

TYPHOID ULCER PERITONITIS.

Dr. Forbes Hawkes, New York (*Annals of Surgery*, May, 1911), after giving a great number of cases of acute ulcer peritonitis in typhoid fever, makes the following conclusions:

If the distinctly toxemic cases are excluded, an "early operation for the others should give excellent results. This "early operation" should be one undertaken very soon after the appearance of the lightest recognizable shade of abdominal muscular rigidity.

The writer believes that this "early operation" is not usually suggested because the diagnostic value of abdominal rigidity at its first appearance is not appreciated, and that on this account a persistent search for it is not made from the time that the patient begins to suffer from abdominal discomfort. The records show that it is only recognized as a rule when marked pain is complained of, and unless other alarming symptoms are present that the case is unfortunately too often "watched" until the rigidity becomes general and a spreading peritonitis has become well established.

Enough evidence is at hand to justify the statement that an early exploratory operation exerts a distinctly beneficial influence, not only on the ulcers that may be about to break down but on others as well, thus preventing their further progress towards separate perforations, a condition recognized as almost invariably fatal. Whatever may be the opinion held in regard to the advisability of peritoneal drainage for pus conditions originating in the female pelvis, or in cases of suppurative appendicitis, it seems that the co-existing typhoid poisoning should induce us here to follow that procedure which we believe will diminish peritoneal congestion and by transforming the fluid variety of peritonitis about the ulcers into the adhesive one, bring about a protecting condition in their vicinity.

POSTANESTHETIC VOMITING.

J. D. Mortimer (*The Lancet*, June 17, 1911), notes among the causes of this condition the following: (1) the habitual state of the patient, (2) the disorder which led to the performance of the operation, (3) the faulty preparation, (4) the anesthetic or the way in which it is given, (5) swallowing of mucus, blood, etc., (6) the operation or some complication following it, and (7) faulty after-treatment. The anesthetic and method must be carefully chosen with regard to all the circumstances, including possible after effects. The administrator should do everything possible to maintain a free air-way and subdue rigidity. Glucose is valuable both before and after operations, not only to prevent or combat acid-intoxication, but as a food which makes no call on digestion. A tablespoonful can be given with water and lemon juice three times or more in the 24 hours, or in special cases it may be given by the rectum or intravenously (2.45 per cent.). Raisin tea contains an appreciable amount.

EXPERIMENTAL ANAPHYLAXIS IN CANCER.

Experiments undertaken to show the difference, if any, between the blood of normal individuals and those suffering from carcinoma by the test of the anaphylactic action are related in a preliminary report (*Journal A. M. A.*, July 8), by J. L. Ransohoff, Cincinnati. Young guinea-pigs were used in three experiments; each pig sensitized with the serum of a carcinomatous individual had as a control a pig of like weight sensitized with normal blood-serum. At the height of the sensitization period—ten to fourteen days—each pig, cancer and control, received a large dose of serum from a cancerous individual. In the first experiment four of the six pairs of pigs showed symptoms of anaphylaxis and in each pair the symptoms were far more pronounced in those sensitized with normal serum than in those sensitized with carcinoma serum. All of the latter recovered while, of the others, two died. In this experiment the carcinoma serum was obtained from a comparatively localized mammary cancer. In the second experiment

the symptoms were somewhat similar but more severe. In the third experiment the symptoms were quite different and not altogether explainable. It is therefore disregarded and the conclusions are deduced from the other two. Judging from experiments one and two, there seems to be a tangible difference between the serum of normal individuals and those suffering from carcinoma, the carcinoma serum seeming to produce a certain immunity in the animal sensitized by it. Ransohoff concludes by saying: "These experiments may develop into an aid to early diagnosis of carcinoma. This is particularly borne out by the fact that in Experiment I pigs B were sensitized with serum taken from a patient harboring comparatively localized carcinoma of the breast with but slight glandular involvement. There seems, too, a possibility of work of this nature opening up a channel which may eventually lead to true cancer immunity and treatment by serum." A tabulated statement of the experiments is appended.

APPENDICULAR INFLAMMATION.

Deaver (*Annals of Surgery*, June, 1911) speaks of acute appendicular inflammation. He emphasizes the statement that if there is one fact in the field of medicine which has been demonstrated conclusively, it is that the rational treatment of acute perityphlitis is in operation, early and immediate if possible; late, postponed, or absolutely contraindicated only by the presence of other conditions which may be complications of the disease itself or entirely independent of it, mere coincidences which render the performance of any operation too hazardous. Advice other than this no man has a right to give. Stanton remarks that the majority of patients suffering from chronic appendicular inflammation gives a history of having had one or more attacks of acute abdominal illness, with a sequence of symptoms recognizable as those of an acute appendix attack, namely, sudden severe abdominal pain, usually beginning in the epigastrium or mid-abdomen, accompanied by nausea and vomiting and followed by a period of pain and tenderness in the right lower quadrant. In his experience appendicular dyspepsia has been characterized by symptoms strikingly analogous to the

earliest symptoms of acute appendicular inflammation, namely, attacks of epigastric or midabdominal pain or distress only rarely accompanied by subjective symptoms referable to the region of the appendix. During those attacks the pain or distress is nearly always increased by food intake. Pain confined chiefly to the right lower quadrant and not associated with attacks of epigastric pain and nausea is seldom due to the appendix, and before making a diagnosis of chronic appendicular inflammation in these cases every other possible condition should be excluded. The majority of our failures have been in patients complaining of right inguinal pain associated with chronic constipation. At operation these patients have presented an unusually long or dilated cecum, usually accompanied by other evidences of enteroptosis. In the future a certain proportion of these patients may be cured by some such operation as that advocated by Wilms, but appendectomy alone does not cure. Unless the diagnosis is absolutely certain, the gallbladder, stomach, and right kidney should be explored, and the possibility of a Lane's kink excluded in all cases operated in for chronic appendicular inflammation.

TENT DILATATION IN GYNECOLOGY.

E. C. Dudley, Chicago (Journal A. M. A., June 24), after noticing the fact that dilation by tents has gone into almost complete disuse, and mentioning the disadvantages of forced dilatation, its transient effect and its occasional inadequacy, describes a method of using tents in a relatively safe way in conjunction with thorough intra-uterine medication. The device, which is illustrated, consists in the use of a tupelo sponge or sea tangle tent, over the distal end of which has been attached half of a gelatin capsule filled with whatever medicinal substance may be desired. Stress is laid on the necessity of thorough disinfection and asepsis of the tent at the time of use. In Dudley's service at St. Luke's Hospital, the tents were exposed to a heat of 240 F., on two consecutive days, and again to the same degree of heat before using. The gelatin capsule, however, may not be absolutely aseptic, and he thinks that this difficulty may be partially or wholly obviated by placing the half capsule filled with iodine on the end of the tent

two days before it is to be introduced; then the iodine permeates the capsule and renders it probably safe. The only medicinal substances he has used so far are a combination of iodine crystals one part and potassium iodide two parts, which dissolves readily in water. After introduction the expanding tent stimulates uterine secretions, which dissolve, first, the capsule, and then the iodine and potassium iodide, making at once a prolonged application to the endometrium; at the same time the iodide permeates the tent and renders it continuously antiseptic. He suggests a trial of this method in such cases of uterine catarrh, uterine hemorrhage, dysmenorrhea and sterility, as may furnish an indication for dilatation and intra-uterine application. For obvious reasons it should not be done at the office, but with all the safeguards of a surgical operation at home or, preferably, in the hospital. He would not advise frequent use of tents in this way. The method has been so far quite satisfactory in his hands, but he makes no extreme claims as to its safety or value.

VACCINE TREATMENT OF TYPHOID FEVER.

James G. Callison, New York (Medical Record, June 24, 1911), has for two years treated with vaccines all of his cases of typhoid fever. Beginning with the small dose of 25,000,000 he has increased this to 500,000,000 at intervals of two to three days. In prophylactic vaccination three injections are given each at an interval of ten days. Antibodies begin to develop on the fifth to the tenth day; they are bacteriolysins, opsonins, and agglutinins. There is an incubation period between the injection and the beginning of formation of antibodies, and then the amount of these bodies rises for twenty to twenty-five days, after which it gradually falls during a period of one year. In an attack of typhoid fever there is a rise of temperature for eight or ten days until the bacillus may be demonstrated in the blood. Then there is a period of even high temperature and the Widal reaction becomes evident in smaller dilutions, followed by a gradual decline. This is to be compared to the similar rise of antibodies in vaccination. Recovery from typhoid fever and the development of immunity are brought about by a similar mechanism. Thus one should expect

little effect from the vaccines in the first eight or ten days; then the antibodies natural to the disease and those artificially developed combine to cause improvement of the symptoms. The author gives an account of the systematic treatment of typhoid fever by vaccines as reported by various authors, and reports 23 cases treated by himself. Three of these are excluded because not treated in the proper stage of the disease. Of the twenty remaining cases there were on relapse and three deaths. There were fifteen failures, all of them becoming septic in their temperature curve. The deaths were from rare complications; femoral phlebitis, lobar pneumonia, and meningococcus septicemia. There were hemorrhages in three cases. Other complications were rare. The cases seemed better, showed a better appearance, and were more comfortable, having better appetite and sleep. Of 214 collected cases the mortality was 5.6 per cent.; relapses occurred in 5.1 per cent. The vaccine does not seem to have done harm. The inoculations were subcutaneous. Almost universally where used the treatment is considered to have done good. It lessens complications and relapses.

REMOVING RENAL CALCULI.

H. A. Kelly, Baltimore (Journal A. M. A., July 1), says that a variety of methods should be at command in removing renal calculi. We have to vary our procedure according as the kidney is fixed or movable, the shape or size of the stone, the length of the lower rib and the stoutness of the patient, etc. A nephrolithotomy if well done is a comparatively safe procedure; otherwise it may be fatal. Kelly gives a method devised by himself, which, he says, except in the simplest cases with an easy exposure, is, as he believes, quicker and safer and better than pyelotomy or any other transrenal operation. The technic is described as follows: "A renal catheter 1.75 mm. in diameter, large enough to obturate the ureteral orifice and prevent a reflux of fluid into the bladder, is inserted through an open-air cystoscope and introduced well up to the kidney just before giving the anesthesia. The patient is then put to sleep,

preferably with gas, semiprone, on an Edebohls cushion. An incision is made in the loin and the superior lumbar triangle is pulled open and the kidney exposed and freed on all sides from its fatty capsule. The stone is then felt and the kidney gently loosened as far as possible on all sides and brought toward the wound. Then an assistant forces fluid (1/1,200 silver nitrate) into the renal pelvis, until it puffs out tense. As a rule, with a careful preliminary study, the exact capacity of the renal pelvis is already known. When the pelvis and kidney are swollen up tense the surgeon first incises the capsule and then plunges a blunt-pointed, blunt-edged knife through the cortex in the middle of a pyramid somewhat on the posterior surface, easily entering the renal at once and enlarging the incision, in a transverse direction if the stones are small. There is a gush of fluid which stops as he introduces his finger and feels for and finds the stones, which he at once grasps with a small stone forceps and removes. The calices and the mouth of the ureter are now examined for more stones and the kidney is palpated on all sides with both hands, one finger being inside the renal pelvis. After all stones are removed the wound is plugged or held closed, while the pelvis and the calices are again distended with the silver solution, when the finger is suddenly withdrawn, letting the fluid escape with a rush, bringing any small calculus with it. This may be repeated several times." He emphasizes the following advantages which he thinks this method possesses: "1. It involves a minimal amount of damage to the kidney. 2. It is done through the part of the organ most easily accessible. 3. The distention is invaluable in offering a bag of fluid, overlain with a zone of soft tissue, which is easily punctured. 4. An exploration is easily conducted through the opening, revealing the presence or absence of other calculi. 5. If it is desirable to keep it open awhile for drainage the transverse incision is a good one for this purpose, as it can be left open and will close rapidly when the irrigations are omitted. 6. In the last case in which operation was done no sutures were put into the kidney, and yet there was no escape of urine after twenty-four hours and practically no bleeding through the incision." The article is illustrated.

Book Reviews

HANDBOOK OF SUGGESTIVE THERAPEUTICS, APPLIED HYPNOTISM, PSYCHIC SCIENCE. A MANUAL OF PRACTICAL PSYCHOTHERAPY, DESIGNED ESPECIALLY FOR THE GENERAL PRACTITIONER OF MEDICINE AND SURGERY; By Henry S. Munro, M. D., Omaha, Nebraska. Third Edition, Revised and Enlarged. Cloth. Pages 409. Price \$4.00. C. V. Mosby Company, St. Louis, 1911.

Psychotherapy is a branch of the healing art that has not been appreciated by the majority of physicians. The failure to recognize its utility and the neglect of psychological methods of treatment by the medical profession is probably the chief reason that so many sick people have been forced to ignore scientific medicine and to seek relief from their psychophysical ills from the Christian Scientist and the magnetic healer.

As the title page indicates, this book is not intended principally for neurologists and psychotheraputists but for the general practitioner, giving those basic principles of physiological psychology upon which the scientific therapeutic application of suggestion necessarily depends. The author emphasizes the value of suggestive therapeutics by facts of personal experience and chemical evidence and gives detailed explanation of how to apply suggestion efficaciously as an adjunct in the treatment of disease.

This third edition of the work contains eight entirely new chapters, which, together with the enlarged and rewritten chapters of the preceding edition, constitute an embodiment of the recent advances in psychotherapy.

Don't forget to allow some urine to remain in the bladder when catheterizing a distended bladder. If all is removed at once you may start an alarming hemorrhage.

A condition of euphoria is often seen in serious cases of peritonitis and should not be taken as a sign of beginning recovery.

ACKNOWLEDGMENTS.

- EXPERIMENTAL MEASLES IN THE MONKEY, A SUPPLEMENTAL NOTE; By F. Anderson and Joseph Goldberger. Reprint. Washington Government Printing Office, 1911.
- SALVARSAN, OR "606," EHRLICH'S NEW REMEDY FOR SYPHILIS; By Edgar G. Ballenger, M. D., Atlanta, Ga. Reprint.
- SOME OBSERVATIONS ON THE USE OF GUIPSINE AS AN APRESSOR REMEDY IN CASES OF HIGH ARTERIAL BLOOD PRESSURE; By O. K. Williamson, M. D. Reprint.
- A REVIEW OF METHODS OF EXAMINATION IN HEART AND BLOOD-VESSEL DISEASES, WITH SPECIAL REFERENCE TO THE DISCOVERY OF THERAPEUTIC INDICATIONS; By Louis Fangeres Bishop, A. M., M. D. Reprint.
- A SUGGESTION IN THE INTRODUCTION OF NEEDLE INTO THE VEIN IN MAKING INTRAVENOUS INJECTIONS OF "606;" By Edgar G. Ballenger, M. D., and O. F. Elder, M. D., Atlanta, Ga. Reprint.

THE TEST OF A TONIC.

The field and function of a systemic tonic is generally understood and appreciated by both physician and patient. To stimulate, whip or goad the vital processes is not to "tone," but, on the contrary, to ultimately depress. A real tonic is not a mere "pick-me-up," but some agent that adds genuine strength, force and vigor to the organism. The genuine tonic is a builder or reconstructor of both blood and tissue. Any agent which will increase the power of the blood to carry and distribute the life-giving oxygen is a tonic in the best and truest sense of the word. Iron in some form is an ideal tonic, as it builds up the vital red cells of the blood and the hemoglobin which is their essential oxygen-carrying element. Of all forms of iron, none is quite as generally acceptable and readily tolerable and assimilable as Pepto-Mangan (Gude). It creates appetite, tones up the absorbents, builds the blood, and thus is a real tonic and reconstructive of high order. It is especially desirable because of its freedom from irritant properties, and because it never causes a constipated habit.

Miscellany

PRACTICAL GLEANINGS.

Persistent tachycardia should indicate a search for other evidences of hyperthyroidism. A goiter is not essential to the diagnosis.

Bruch recommends, in furuncles of the external passages, the introduction of gauze or cotton wool impregnated with a mixture of glycerine and ichthyol, equal parts, to be made twice daily until the furuncle dries up. The tampon should exert no pressure and be reinforced by another to prevent the solution running out.

When removing stones from the gall ducts don't neglect to explore the hepaticus—with a probe or better, a narrow blunt spoon.

An efficient soap for polishing instruments may be prepared by incorporating two parts of powdered emery and one part of magnesium carbonate with ten parts of tallow soap softened with a very small quantity of water. A good polish in powdered form is obtained by mixing four parts of powdered chalk, four parts of magnesium carbonate and seven parts of red oxide of iron.

Perforating ulcers and localized gangrenous processes in one or both feet, without other obvious cause (e. g., tabes, diabetes, obliteration of blood vessels, frost-bite) indicate a careful examination of the spine for an evident or concealed spina bifida.

Thousands of doctors are using picric acid for burns, and it is very good. To remove completely the stain from the hands or any part of the body, take one quart of water. put into it one drachm of lithium carbonate and use as a wash. This will remove the stains easily and quickly, no trace being left.

NEWS ITEMS.

Dr. F. W. Samuels, of Louisville, was called back to Kentucky on account of the death of his father in Harrodsburg.

Dr. John Edwin Hays, of Louisville, has returned after a two weeks' stay in Chicago.

Dr. James W. Guest, of Louisville, was among the passengers robbed in the train holdup near Buffalo, N. D. It is said he was relieved of \$100 in checks.

Dr. Lee Kahn, of Louisville, left for Europe. He will remain abroad eight months.

Dr. W. D. Berry, of Louisville, has gone to Oklahoma to be gone six weeks.

Dr. T. R. Feidel, of St. Matthews, went to Rockport, Ind., to attend the golden wedding of his parents.

Dr. M. L. Ravitch, of Louisville, has gone to Omena, Michigan to join his family. He will remain several weeks before returning.

Dr. Joseph B. Cowherd, of Shelbyville, has returned home from New York, having served an internship in the City Hospital there.

Dr. William Phillips, of Louisville, has gone to Washington and Ocean View to remain several weeks.

Dr. Halstead S. Murat has been appointed chief physician at the Indiana Reformatory in Jeffersonville to succeed Dr. Henry H. Smith, resigned.

Dr. Lonis Frank, of Louisville, entertained the Kentucky Midland Medical Society at the Country Club, Louisville, in honor of Dr. U. V. Williams, of Frankfort.

Dr. James J. Morgan, of Covington, has been re-elected medical inspector of the schools in that city.

Dr. J. W. Fitch, of Louisville, has returned from Winchester.

Dr. C. E. Render, of Louisville, is back from New York, where he took a special course of study.

Dr. E. Y., Johnson, of Louisville, has returned after a week's stay in Hendersonville, N. C.

Dr. W. O. Humphrey, of Louisville, has gone to Pueblo, Col., to remain several weeks.

Dr. H. C. Osborn, interne at the Louisville City Hospital, has successfully passed the United States Army examination at Fort Benjamin Harrison and has been commissioned First Lieutenant in the Medical Corps. He is ordered to report on October 2 at the Army Medical School at Washington.

Dr. William B. Doherty, of Louisville, was appointed by Gov. Willson as a member of the State Library Commission.

Dr. James R. Anderson, of Louisville, visited in Taylorsville.

Dr. Ray Boon, of Bardstown, is the guest of his sister at New Haven.

Dr. S. G. Dabney, of Louisville, has returned after a week's stay at French Lick Springs.

Dr. A. R. Willett, of Shelbyville, visited relatives in Irvington.

Dr. J. J. Greenwell, of New Haven, was in Louisville for a brief stay.

Dr. James H. Letcher, of Henderson, has returned home after a short stay in Louisville.

Dr. Hugh N. Leavell, of Louisville, has returned from French Lick Springs.

Dr. Charles M. Gerth, of Louisville, has returned from Columbia, where he visited.

Dr. J. E. Caldwell, who visited in Louisville, has returned to Perryville.

Dr. Louis Trigg, of Glasgow, spent several days in Louisville.

Dr. W. L. Markwell, of Henderson, visited relatives in Sturgis.

Dr. DeWitt Wolfe, of Louisville, has gone to the White Mountains to remain several weeks.

Dr. L. P. Durrett, of Prestonia, spent a week in Cincinnati.

Dr. J. B. Marvin, of Louisville, has gone to St. Catherines, Can., to remain until fall.

Dr. P. S. Gans and Mrs. Gans, of Louisville, celebrated their fifteenth wedding anniversary.

Dr. William B. Doherty, of Louisville, has been elected to the Medical Faculty of the University of Louisville to succeed Dr. Henry E. Tuley, resigned. He will share the Chair of Obstetrics with Dr. Edward Speidel. Prior to the recent college merger Dr. Doherty occupied the Chair of Obstetrics for many years in this institution.

Dr. Evan E. Owen, of Oteen, Minn., has located in Louisville.

Dr. Joseph M. Mathews, of Louisville, and Dr. W. A. Quinn, of Henderson, were appointed members of the Kentucky State Board of Health by Governor Willson. Both Dr. Mathews and Dr. Quinn were formerly members of this board but resigned.

Dr. F. W. Samuels, of Louisville, who has been quite ill for some time in a local infirmary, is now recuperating in Atlantic City.

MARRIAGES.

Dr. J. W. Fitch to Miss Bessie Rankin, both of Louisville, July 5th.

DEATHS.

Dr. Enoch E. Hume, of Frankfort, at his home July 4, from nephritis, aged 67 years.

Dr. William L. Hockaday, of Richmond, at his home Buried June 15, aged 67 years.

Dr. William Bailey, of Louisville, President of the Kentucky State Board of Health, died at his home July 15, from apoplexy, aged 78 years.

Dr. Simpton Blackwell, of Louisville, aged 80 years.

Dr. J. S. Gunn, of Adairville, died at his home August 1st, aged 48 years.

SODIUM CACODYLATE.

A. J. Caffrey, Milwaukee (Journal A. M. A., March 4), publishes a second note on the use of sodium cacodylate in syphilis. Referring to the criticisms of Dr. L. L. Michel, who has questioned his results, he sends a picture of his former patient, stating that the man is apparently cured. Caffrey has been using the sodium cacodylate side by side with "606" and has had equally good results with each. He finds that patients tolerate sodium cacodylate well and its toxic effect does not show till after very strenuous treatment. He does not doubt that mercury will quickly cause primary lesions to disappear, as Dr. Michel says, but it was to avoid the use of mercury that he has employed the other drug.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton" (no meeting in August).

| | |
|----------------------------|-----------------|
| DR. V. E. SIMPSON..... | President |
| DR. A. L. PARSONS..... | Vice Presidents |
| DR. W. B. GOSSETT..... | |
| DR. H. N. LEAVELL..... | Treasurer. |
| DR. DUNNING S. WILSON..... | Secretary |

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House (no meeting in August).

| | |
|----------------------------|----------------|
| DR. J. A. FLEXNER..... | President |
| DR. ARGUS D. WILLMOTH..... | Treasurer |
| DR. G. B. JENKINS..... | Vice President |
| DR. H. J. FARBACH..... | Secretary |

LOUISVILLE SOCIETY OF MEDICINE; meets at the Tavern Club August 3.

| | |
|---------------------------|----------------|
| DR. C. B. SPALDING..... | President |
| DR. S. SCOTT PRATHER..... | Vice President |
| DR. RICHARD T. YOE..... | Treasurer |
| DR. W. O. GREEN..... | Secretary |

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club (no meeting in August).

| | |
|-----------------------------|----------------|
| DR. C. G. HOFFMAN..... | President |
| DR. VERNON ROBINS..... | Vice President |
| DR. CHAS. W. HIBBITT..... | Treasurer |
| DR. A. C. L. PERCEFULL..... | Secretary |

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club (no meeting in August).

| | |
|------------------------------|-------------------------|
| DR. J. GARLAND SHERRILL..... | President |
| DR. J. ROWAN MORRISON..... | Vice President |
| DR. FRANK C. SIMPSON..... | Secretary and Treasurer |

WEST END MEDICAL SOCIETY; meets at the Old Inn August 8.

| | |
|--------------------------|-------------------------|
| DR. I. A. ARNOLD..... | President |
| DR. H. L. READ..... | Vice President |
| DR. JOHN K. FREEMAN..... | Secretary and Treasurer |

CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Lancaster, Ky., October 19, 1911.

CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., August 10, 1911.

EAGLE VALLEY MEDICAL SOCIETY; meets in Sanders, Ky., August 9, 1911.

SOUTH-WESTERN MEDICAL ASSOCIATION; meets in Clinton, October 10, 1911.

KENTUCKY ECLECTIC MEDICAL ASSOCIATION; meets in Louisville May, 1912.

NATIONAL ECLECTIC MEDICAL ASSOCIATION; meets in Wash- ington, D. C., June 18-21, 1912.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., October 24, 25 and 26, 1911.

KENTUCKY STATE HOMEOPATHIC SOCIETY; meets in Lexing- ton, Ky., May, 1912.

KENTUCKY STATE ASSOCIATION OF RAILWAY SURGEONS; meets in Lexington, Ky., May 8, 9 and 10, 1912.

AMERICAN MEDICAL ASSOCIATION; meets in Atlantic City, 1912.

CEREBROSPINAL MENINGITIS.

C. H. Dunn, Boston (Journal A. M. A., July 22), gives a history of our conquest of cerebrospinal meningitis. In the production and applications of the antiserum we are imitating Nature's method of destroying bacteria within the body, that she always uses in infectious diseases that recover. Indeed, what has characterized the bacterial infections heretofore has been their self limitation, so called. It is through animal experimentation that we are learning to imitate Nature's method. In doing this two modes of procedure are available. The antiserum can be produced and then applied empirically on the patients, or an experimental basis might first be sought by animal experimentation. The first or empirical method was largely used in Germany, while the second was employed in this country, and by it was worked out the only successful treatment through Flexner's experiments on monkeys. In developing the discovery it was found that the serum both direct and indirect power of destroying the meningococci, which power depends largely on the degree of concentration. The necessary degree of concentration can be obtained in many cases by injecting the curative agent directly into the membrane surrounding the nervous centers, whereas if injected into the blood or skin it suffers, first, enormous dilution, and also fails to reach the seat of the inflammation to any large extent. By experiment also it was shown that this injection into the membranes by lumbar puncture was a safe procedure in animals, and, therefore, its trial in the human subject is justifiable. The action of the antimeningitis serum is summed up in saying that it possesses the power of acting directly on and inhibiting the growth or destroying outright the meningococcus; that it increases phagocytosis and promotes intracellular digestion of the diplococcus, at the same time detoxicating it; and that it exerts a certain neutralizing action on the soluble toxic products set free by the growth and disintegration of the germs. The history of the early use of the remedy is given and the mortality statistics are discussed at length, showing that the disease has been largely conquered by specific serotherapy. It has also been found that the method prevents the dangerous complications and sequelæ of the disease to a very large extent. Its discovery and development was according to scientific methods and it was kept under control by the Rockefeller Institute for more than three years while its action was being

subjected to the closest clinical scrutiny. This control has just been relinquished on the ground that the value of the remedy as a curative agency is no longer a questionable matter, but has been thoroughly proved by experience.

TONSILLITIS AND GENITO-URINARY DISORDERS.

G. L. HUNNER, Baltimore (Journal A. M. A., April 1), after referring to the recent enumeration of ailments ascribed in certain cases of tonsillar disease by Rosenheim (Bull. Johns Hopkins Hosp., November, 1908, xix), says that those treating disease of the urinary organs in women are familiar with the so-called rheumatic urethritis. There are many cases in which gonorrhea can be ruled out to a practical certainty and some in which we are at a loss to ascribe the symptoms to anything but a rheumatic cause. His experience with these patients is that they respond more readily to local treatment than do these with chronic gonorrhea, and as a rule they relapse within a few years or months. His impression also is that in these cases we find the inflammation more frequently in the posterior third of the urethra rather than in the anterior third, where it is more frequent in gonorrhea. Several illustrative cases are reported and discussed. He finds the evidence of their connection with tonsillar disorders sufficient to warrant a more careful study of chronic urethral cases for, if we can relieve them by tonsilleectomy, as he has done in several of his reported cases, we will make an important advance in therapeutics. The possible connection between tonsillitis and ureteritis has been brought to his attention only recently, and he reports two cases of this type, in one of which the tonsils had been removed. A suggestive feature in one of these is that the patient had a sore throat and hoarseness following each attempt to catheterize the ureter. He believes that this new theory of tonsillar infection or toxins producing ureteral structures may be found to explain some otherwise obscure cases. While not himself familiar with male genito-urinary work, he is informed that many cases of posterior urethral inflammation cannot be traced to gonorrheal infection. Dr. Geraghty, of Johns Hopkins Hospital, tells him that he has seen cases of acute prostatitis with and he thinks that it is not improbable that some cases of abscess formation occur during or immediately after tonsillitis, chronic urethritis may have a like origin.



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The literature on American antipyretics, analgesics and anodynes is voluminous, and clinical reports from prominent medical men in all parts of this country, with society proceedings and editorial references, attest their value in actual practice in an endless variety of diseases and symptomatic affections, such as the neuralgias, rheumatism, typhoid and other fevers, headaches, influenza and particularly in the pains due to irregularities of menstruation. Antikamnia has received more favorable criticism because of its success than any other remedy known. Some critics have seemed personally aggrieved because of its American source, and that it did not emanate from the usual "color works," but their diatribes have fallen flat as do most persecutions and unreasonable and petty prejudices. The fact stands incontrovertible that antikamnia has proven an excellent and reliable remedy, and when a physician is satisfied with the effects achieved with a remedy he usually holds fast to it. That is the secret of the antikamnia success. The dose is from one to two five-grain tablets. Antikamia Tablets are today in greater use than any other remedy of their kind.

THE American Practitioner and News.

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LEE KAHN, M. D. EDITOR IN CHIEF

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Original Articles

THE PRACTICAL APPLICATION OF CYSTOSCOPY.

IRVIN S. KOLL, B. S., M. D.,

CHICAGO.

The definite position of the cystoscope as a diagnostic and therapeutic aid in diseases of the genito-urinary tract is one of the triumphs of modern scientific medicine. To Nitze is the profession indebted for the construction of this valuable instrument. His conception was first put to practical application in 1877; his idea founded upon the physical thesis that the illumination of a hollow viscus connected with the exterior of the body by a long narrow canal is possible only when the source of light is carried into the viscus itself. The first model was lighted by a platinum wire burned to white heat. This wire was surrounded by a cooling chamber. The caliber of the instrument was necessarily quite large. One year later (1878) the Edison lamp was invented and Nitze immediately put this into use by replacing the platinum wire.

It took some years before the profession generally accepted

the cystoscope as a reliable source of information. At first the skepticism as to whether or not the vesical structures could really be seen was dominant. Stories are related that physicians travelled many miles to Berlin and Vienna to prove for themselves that the eye really could look into the urinary bladder. Then came a period of rebellion; many surgeons claiming that the introduction of the cystoscope and ureteral catheter was associated with many dangers. Even at this date many medical men hesitate long before resorting to this instrument to assist them in diagnosis. Let me, therefore, at this time state that the contraindications to cystoscopy are definite and very few in number, and that whenever the examination is carried out by men who thoroughly understand the technique, it is wholly devoid of any danger whatever. Furthermore, by care and a little patience, there are few cases that have to be given a general anesthetic, as it can be carried out almost painlessly in every instance.

What has been said in the foregoing is referable only to the indirect method of cystoscopy. I can say but little for the direct method, as elaborated by Kelly, of Baltimore. This method consists, as is probably well known, in placing the patient either in the knee-chest position or the exaggerated Trendelenburg, and introducing an ordinary hollow metal tube, then reflecting a ray of light into the bladder. Of course, this method is only possible in females. It has the disadvantages of greatly tiring the patient, is often painful because of the necessity of dilating the urethra in order that a large enough tube can be introduced, and the visible field is much smaller than with the water-dilated bladder and the magnifying lens of the Nitze instrument.

Turning now to the processes of diagnostic-cystoscopy, we first have plain cystoscopy, or simple inspection of the bladder and ureteral orifices. Then ureteral catheterization of one or both sides, for isolation of the respective renal secretions. Catheterization with a lead wire combined with a skiagraph to aid in the location of a calculus. Estimation of the capacity of the renal pelvis may at times assist in arriving at some conclusion. This is more or less accurately carried out by measuring the amount of fluid injected through the ureteral

catheter until the patient begins to feel some pain. Another way is to use one of the silver albuminoids and take an X-ray as soon as the tolerant capacity is experienced by the patient.

The question of estimating the quantitative capacity of a kidney by chromocystoscopy and experimental glycosuria is still a hotly contested one. Many claim the absolute inaccuracy and unreliability of such tests; others claim the opposite. I feel that a positive result in using these tests would not influence my surgical determination to remove a kidney, but a negative result may occasionally make me hesitate, or at least suggest very conservative procedure.

These tests are made as follows: A measured quantity of either indigo-carmin or phenolsulphothalein (Geraghty and Crabtree) is injected intramuscularly and the time recorded how soon the urine becomes colored blue, in the case of the indigo-carmin, or how soon the urine will give the red color reaction of phenolphthalein. Also by use of the colorimeter the total amount of the drug excreted in a given time. For the production of glycosuria 1 c. c. of 2 per cent. phloridzin solution is injected into the buttocks, and the time recorded how soon the Fehling's solution gives the reduction test for sugar. Knowing how long a time is necessary to give positive results in normal cases, deductions can be drawn accordingly. But these deductions are liable to be inaccurate or misleading.

Taking up the pathological changes in the urinary tract, let us see what can be learned from cystoscopy.

Considering the kidneys first, we will assume that we have one of the several types of inflammatory or suppurative processes. Our clinical manifestations lead us to believe that the right kidney is affected. The urinalysis shows pus or blood, or both. The cystoscope reveals whether or not the inflammation has extended down the ureter by the changes of the ureteral orifice. Is the opposite kidney diseased? Passing the catheter and isolating the urine answers this question beyond the shadow of any doubt.

To determine the unilaterality of a tuberculous lesion is important, as well as making the diagnosis before there is much advance in the pathological state of the kidney. This change is shown by typical inflammatory reaction at the ureteral orifice of the affected side.

The constancy of hematuria as an early sign of neoplasm of the kidney makes it of the utmost value to make an early diagnosis as to location. Here, again, the cystoscope plays the role, and may in many instances be the direct means of saving the patient's life.

Previous to the removal of a kidney, one of the most important points to be decided is whether there is another kidney. Several cases are on record where an autopsy following a nephrectomy has demonstrated the absence of a second kidney. Then other anomalies, such as double ureters and horseshoe kidney, can be diagnosed only by means of the cystoscope.

The next group of cases to be considered in which the cystoscope, plus the ureteral catheter, plays such an important part is ureteral obstruction. This may be due to stricture, either congenital¹ or inflammatory, or may be due to a calculus producing a partial or complete stenosis. The diagnosis is arrived at by seeing the catheter bend upon itself before the kidney is reached. Of course, the clinical picture and the X-ray are very essential accessories, since one of the small folds of mucous membrane may obstruct the passage of the catheter. This is usually overcome by repeated withdrawal and repassing of the catheter.

The great triumph of the cystoscope is its ability to make an early diagnosis of vesical tumors. This, more than any surgical procedure, has been the agent to lower the mortality of new growths in this organ. Whether the tumor be primary or secondary, the actual view of the degree of its progress gives an exact answer to the question of prognosis. Frequently calculi lying in pockets of mucous membrane or behind an enlarged median prostatic lobe have been undiagnosed by the sound or searcher, but they cannot escape the illumination of the cystoscope. Phosphatic incrustations in gouty diathesis, foreign bodies, such as hairpins, pieces of catheter, pieces of straw, etc., all come into startling view when the cystoscope is introduced into the bladder. The effect that prostatic hypertrophy has upon the bladder, the type of the enlargement, the question of a malignant degeneration, are all settled

1. Eisendrath: "Congenital Stenosis of the Ureter." *Surg., Gyn. and Obst.*, June, 1911.

by cystoscopy. To those surgeons who operate by both routes for removal of the prostate, the cystoscope will decide whether it should be suprapublically or perineally.

Lastly, as the author demonstrated in a recent paper,² there are definite vesical changes as an early sign of incipient *tuberculosis dorsalis*, demonstrable before any other symptom manifests itself.

Finally, I want to emphasize the one really important contraindication to the use of the cystoscope, and that is in acute cystitis. More harm than good comes from an attempt to make such an examination during an acute attack.

Not of any less importance is the value of the cystoscope as a therapeutic measure. Many a case of pyelitis has been cured and a deeper infection avoided by lavage of the renal pelvis. This subject, based upon over a year's observation, both clinically and experimentally, will be gone into detail in a subsequent paper.

A very large per cent. of impacted ureteral calculi have been made to pass spontaneously by the repeated injection of oil into the ureter through the catheter. This was first demonstrated by Kolischer, in 1901. The endovesical removal of new growths, particularly pedunculated papillomata, by means of the wire snare and high frequency current through the operating cystoscope, is a new field that promises to be of great value in such pathological conditions of the bladder. The extraction of foreign bodies by means of the operating cystoscope is a procedure well known to all.

The motive for the presentation of this paper is to impress upon those of my readers who are less familiar with the virtues of the cystoscope its great importance in modern genito-urinary surgery. Don't wait until your patient has become exsanguinated from a hematuria; don't wait until he gets a general septicemia from a pyonephrosis; don't wait until his papilloma of the bladder takes on a malignant degeneration, and thereby becomes inoperable; don't wait until a small ureteral calculus produces destruction of the kidney, but in all obscure cases have a competent cystoscopist examine

2 Chicago Medical Recorder, April, 1911. "Cystoscopic Findings in Early *Tuberculosis Dorsalis*."

him and thereby not only save him a possible unnecessary laparotomy, but save his life.

31 North State street.

MENSTRUAL IRREGULARITIES.

GUY P. GRIGSBY, M. D.,

LOUISVILLE, KY.

In writing a paper on this subject I have no hopes of imparting anything new to you, but to call attention to a few things that I have encountered, in an endeavor to learn if you, likewise, have met these same puzzling conditions coincident with the menstrual cycle. Every honest and candid gynecologist must admit not only his ignorance of the etiology of many cases of dysmenorrhea, metro and menorrhagia, but his failure to relieve or cure them by the so-called approved methods.

As competition in our profession grows keener each year we experience more difficulty in using conservative methods, without reference I mean to operative procedures that have, I am glad to say, been sifted down to practical and permanent lines, but I speak of that old fashioned conservatism that caused the boldest operator to hesitate before deciding upon a serious operation after a single examination of a patient. Undoubtedly our methods of diagnosis have greatly improved and to dally along with a purely surgical condition by the use of douches, tampons, etc., is certainly not wise or commendable. We cannot deny, however, that our brilliant success with the knife, not to speak of the impatience of the modern woman and the certainty that our neighbor will operate if we are old fashioned enough to suggest delay, has led us astray and we have operated upon cases that after results have shown would have been far better without an operation. I find it extremely hard to restrain oneself or face the patient long enough to learn of the true nature of the case. It is so easy to operate and so much more profitable that one is very likely to err and choose the "easier way."

I am constantly realizing how helpless we are in handling these unusual cases of menstrual irregularities. Notwithstand-

ing our confident air in front of the patient, one is often prompted to ask himself, "What if we are all wrong after all?" It is not in a spirit of pessimism that I ask you, but an honest desire to see if you too have had similar experiences. It is easy to tell the mother that her daughter's symptoms will be relieved by nature or that they are the result of poor hygiene—or anemia—but the ever recurring pain each month and the prevailing surgical trend are a constant handicap to the physician who wishes to do his best for his patient.

I do not wish to deal with obvious conditions where you can definitely trace the cause as well as the effect, but rather those in which certain symptoms are presented associated with a local condition that seems to explain them—in which the question at once arises, is this a surgical case or not? Can she be cured by an operation? The word cure is indeed an illusive one—having one meaning as viewed by the surgeon and quite another as viewed by the patient.

Very often a surgical operation apparently relieves a pathological condition and leaves a perfect anatomical result, yet the symptoms that caused the patient to consult the physician are still present. Take for instance an unmarried woman with a slightly antiflexed uterus, a prolapsed ovary—not tender—a neurotic—with the other attending symptoms before, after and during her menstrual period, such as pain, intestinal disturbances, headaches, etc. She has long been treated by her family doctor by approved methods, namely, douches, colonic irrigations, tampons, sedatives—with more or less relief, but the pain coming on every month. The cervix is dilated—a curette is used—with relief for a period or so. The pain then recurs—she falls into the hands of a specialist—her abdomen is opened, her appendix is removed. Her ovary is suspended, or as is often the case removed. The effects of the more serious operation last for a longer duration, but eventually the symptoms recur and usually in an aggravated form. This is a common picture, where is the fault? Is it a case of a wrong diagnosis or an ill advised operation? We are no nearer an answer than we were fifteen years ago. We simply put her in the class of a neurotic and let it go at that, and then we wonder how and why the patent medicine and other quacks exist and flourish.

We have all met with the so-called inter-menstrual pain which has been so confidently ascribed to cystic ovaries. How often has this been noted with painful uterine contractions and on opening the abdomen find absolutely no ovarian trouble. Appendiceal pain has often been noted at the menstrual period. To cite a case in point. I recently operated upon a married woman who had inter-menstrual pain, but they were very appendicular in character with rigidity over McBurney's point. She had four attacks at about two months' intervals. The pains and symptoms were so characteristic of a diseased appendix that notwithstanding the presence of a right ovarian cyst the size of an apple, a diagnosis of chronic appendicitis was made by the family doctor. Operation revealed a perfectly healthy appendix—a right ovarian cyst; both were removed, with complete cessation of pain. Evidently in this case the appendix was not the offending member.

I am at a loss to account for a reason why healthy young women, both married and single, previously regular should suddenly cease to menstruate for one, two or even six months without any other symptoms, then spontaneously resume the function after all methods both medical and surgical have been tried in vain. We may attempt to explain it on the grounds of temporary suspension of the ovarian secretion, the taking of cold, fright or what not, but the fact still remains that we are in the dark as regards the cause of the phenomena. We do know it causes us no little worry, apprehension and sometimes embarrassment when we are unable to relieve this condition. This is especially true in married women who have skipped a period or two, are sure they are pregnant and demand of us to do something. It is hardly necessary to add that the diagnosis of pregnancy in these cases, especially in multipara, is often impossible. We must admit our ignorance, temporize, and in the meantime use some harmless remedy. Very often the patient is liable to take the matter in her own hands, and some one less scrupulous than ourselves curette the uterus with negative results. It is a well known fact that a great many women who submit to the regular abortionists are not pregnant at all.

Menorrhagia in young girls is often present after repeated curettements, and all known causes of the conditions, such as

neoplasms, ovarian disease, etc., have been excluded. I recall quite well as an interne a young woman who had an almost continuous flow for two weeks who had no pelvic condition or in fact any cause that could be elicited to account for her condition. In married women who skip a period, then develop an irregular flow, we at once think of an incomplete abortion or an ectopic, but we must bear in mind that this may be caused by other conditions, namely, taking of cold, fright, anemia, etc. Of course exploration of the uterine cavity is the safe and best method in these cases.

Bleeding after the menopause is suggestive of malignancy, and should demand a great deal of care before it is excluded, but other conditions are sometimes responsible—very often being due to a chronic endometritis or so-called senile endometritis. In the treatment of these peculiar cases of menstrual irregularity I would suggest a painstaking and careful examination at stated intervals until the cause is found. In those cases in which the nervous element is pronounced and one is unable to discover any condition that is causing it, I would advise the aid of a capable neurologist. Frequently galvanism or some other form of electricity has proven of great aid in these cases.

In cases of metrorrhagia syphilis has been shown to have been a causative factor, and hence it is well to bear this in mind. Sometimes a Wasserman reaction will clear up a very obscure case. Very small fibroids may be the cause of a dysmenorrhea. Furniss reports a case where the removal of two fibroids the size of a pea, one from either cornua entirely relieved the conditions. A small submucous polyp may cause bleeding and sometimes causes the mistaken diagnosis of fibroids.

Undoubtedly a great many cases of menstrual irregularity in unmarried women are the result of sexual abuse, and when their history can be obtained often proves the key to a very puzzling case. Likewise the same holds true to married women—sexual excess—the use of various means and devices to prevent impregnation and the increasing trend to seek the abortionist when they miss a period, whether pregnant or not. It is encouraging to note that these matters of sexual hygiene are being more freely and sensibly discussed and it

is to be hoped that the ignorance that has for so long hidden under the cloak of false modesty will be displaced by a clearer and more sensible understanding of this subject that is of such vital importance to the human race.

In conclusion I would say that in a great many cases of painful or otherwise irregular menstruation we are unable to discover any cause for same. That it is not always due to minor changes in the uterus and adnexa has been proven by many operations with their removal without relief of the condition.

I would also urge a guarded prognosis, and a less frequent resort to operation before a fair trial of all the means of local and general treatment that would seem applicable to the case.

Selected Articles

THE MODERN MANAGEMENT OF PNEUMONIA.

SIMON BARUCH, M. D.,
NEW YORK.

Pneumonia stands to-day a dread menace to human life. Nearly ten thousand victims are sacrificed every year to this disease in New York City. Other cities present a similar record, and the country districts add enormously to this holocaust. Physicians are therefore impelled to study and reflect upon the reasons of this impenetrability of mysterious exception to all other diseases, most of which have yielded to advanced medicine. In the privacy of our family, let me say that oft-repeated survey of my own therapy has brought the conviction that the reason may be found in the erroneous management of the disease by the average practitioner.

Let us review the phases through which the therapy of pneumonia has passed during the half century of my professional activity. During my student days pneumonia was regarded as a malady which destroyed life by interference with the respiratory processes. The lung was crippled by inflammation—inflammation was the enemy to be attacked with might

and main. And right royally did our forefathers, and for that matter my own contemporaries, including myself, rush into the fray. Blood-letting, antimony, mercury, blisters, veratrum viride, combined with abstinence from nutritious food and cold drinks, were the weapons that were marshalled to weaken the enemy and rout him. Unhappily these weapons also weakened and routed the patient. Those of you who have studied and practiced in this happy era can scarce conceive how helpless the physician was in those days in the presence of a severe case of pneumonia. The active campaign he was taught to enter upon imbued the mind of the neophyte with the might and power of medicine. It was not long, however, before the conscientious observer was disenchanted when he found his cases dying in large numbers despite his active medication. I have personally seen in the second Alabama Hospital in this city, sturdy soldiers succumb under too assiduous treatment; often with evidences of beginning resolution sudden failure of the vital powers ensued. This was the fashionable phrase at that time as heart failure is to-day.

Sad experience gradually trained my clinical judgment to abandon cupping and to substitute veratrum to subdue the rapid and tumultuous pulse; quinine and aconite, morphia and small doses of tartar emetic became the stock remedies, from which I hoped to obtain results without the serious depreciation arising from venesection. So fatal was the disease that I no longer entered the fray with a stout heart. A cowardly pessimism would have overwhelmed me amid the continuous fatalities of the disease had not my earliest medical activity been cast in the army at a time when life was accounted of little value, and thousands were sacrificing it on frequent battlefields. The winter of 1865-1866 was spent in the libraries, hospitals and dispensaries of New York City. Here the teachings of Hughes Bennett and Thomas King Chambers and of our own Austin Flint were a revelation to me. Among the advanced medical men whom I daily met, such as Loomis, Flint and Hudson, the expectant treatment became the vogue. Pneumonia must be left to nature—nature must not be thwarted—and lo, the results were astonishing under strict expectancy when compared with the results under the spoliative practice. But where was the doctor, unless he were a homeopath, who would

stand idly by and see nature do the work for him? Where was the patient who was content to pay a doctor for watching nature cure him? Only a few great and courageous men could thus brave tradition and public sentiment. The homeopath now had his innings in the large cities; while he was plying the sick man with minute and infinitesimal doses and inert dilutions, the conservativt powers of the organism were allowed free play. This was the victorious area of the homeopaths, for these were not tre mongrel of to-day, but the true followers of Hahnemann. They appllied no powerful remedies when necessary to subdue pain or meet symptomatic condition; they confined themselves to medication which to us is known to be inert. The so-called allopath was severely criticised and maligned by his step-brother. The former still felt the need of active medication. He could not disenthral himself from the traditions of his calling. While he refrained from the spoliative measures in vogue in the middle of the last century, he poured in calomel, quinine, small doses of aconite to subdue the inflammation; he calmed the sleepless patient with morphia or chloral; wrapped him in a hot poultice or warm cotton jacket; fed him with milk and broth instead of gruels, and stimulated him when a fatal termination seemed imminent. This was termed the expectant treatment, and expectant it was indeed, in the sense that I personally expected some complication or failure of the vital powers to turn up at any time, and I expected, too, to be powerless to meet it.

Bleeding fell into desuetude, blistering and mercurialization were gradually abolished also, even medication became less active, but the purely expectant method of Hughes Bennett never became popular; each practitioner felt called upon to substitute a more active and damaging treatment, especially when the powerful coal tar preparations came into vogue. Now the solution of the problem seemed at hand. The pulse could easily be controlled by veratrum viride; its rate could be reduced to normal; the temperature could be reduced to nearly normal by antipyretics; pain could be subdued by morphia; sleeplessness by chloral, strength could be sustained by concentrated foods, and the vital powers could be spurred to activity by stimulants.

Alas, despite the physician's absolute control over every manifestation of the disease, the patient too often succumbed. Despite all out-vanished progress, pneumonia is to-day the most fatal disease next to tuberculosis. Why is this? The chief reason lies in the disregard of the teachings of history, which clearly shows that so long as the disease pneumonia was attacked by the physician and the only so-called improvement was sought in new remedies to throttle the disease, so long has its fatality continued and so long will it continue.

Several years ago an editorial in one of our prominent medical journals appeared with the caption, "Is Pneumonia Incurable?" After referring to the enormous mortality of this disease (over 50 per cent.) in the Philadelphia hospitals, the writer asks, "Is this dreadful waste of life inevitable?" "Or is it the direct result of the nihilistic teachings of those who doggedly refuse to listen to the assertion of others, as acute as themselves in observation and as honest in purpose, who claim that medicine is not powerless and that pneumonia has been, and often can be, cured without waiting for the crisis on the seventh or ninth day. Let us hear some of these competent observers that Osler and others have incontinently thrown out of court." The writer then reviews the bleeding method "under which the mortality was not as large as it is to-day", the calomel treatment of Camman and Leaming, the sweating treatment of McArthur, the cold pack treatment which he attributes to me and others, the chloroform treatment of A. H. Smith, creosote treatment of Beverly Robinson, Thomson and others whose credibility cannot be impugned, the iodide potash treatment of Altschul and the quinine treatment of Solis Cohen. He concludes that inasmuch as these competent observers are probably not all wrong, pneumonia is not an incurable disease. Such false deduction has been the source of all the errors in the discussion of this subject from time immemorial. Let me utilize as an illustration the method which this able and earnest writer does, i.e. the questionable honor of describing as the "cold pack treatment of Baruch". This is but a repetition of the too common error of regarding one element of the treatment rather than the principle which should guide to a correct and effective therapeutics. How far my method is removed from a "cold

pack treatment" you shall presently have an opportunity to judge. The most fatal error, however, lurks in the statement that the success of the methods mentioned rests upon the fact that they cure the disease without waiting for the crisis. This is certainly not true of my cold pack method; though the latter is cited to demonstrate this untenable proposition. If there is anything positive in medicine it is the fact quoted with so much honest sorrow by this editor that "pneumonia is a self-limited disease which cannot be aborted or cut short by any known means." (*I would most earnestly urge that the recognition of this fact by the entire medical profession would prove the most potent agency in the diminution of mortality from pneumonia.*) The continued fatality of this disease, despite the great advances in medicine, is, in my opinion, chiefly due to the search for specifics which again and again has proven futile by reason of the fact that this disease is self-limited.

To treat the patient and not the disease would seem to be the lesson inculcated by history. A retrospective view of my personal experience and observation of the practice of others convinces me that pneumonia is not to be treated as a disease of the lungs, but as a diplococcus infection of the entire organism, and that our entire aim should be to enhance the patient's resisting capacity to the toxemia induced by the diplococcus invasion, just as is done in typhoid and other infectious fever. Keeping this idea steadfastly in view, pneumonia therapy demands a more emphatic recognition of the *Vis medicatrix Naturae*. To enhance the latter by such procedures as may protect the organism from harm and to further the conservative processes residing within the body by physical methods; seconded if need be by mild and innocuous medication has been my therapeutic aim during the past twenty years, and, I may say, that the clinical results in private and hospital practice have been eminently satisfactory.

Among the conflicting views of this subject we may regard it as settled that the Fraenkel-Sternberg diplococcus invades the lung primarily and sets up an inflammation. The organism attempts to limit the extent of the latter, but the peculiar structure of the pulmonary tissue and the habits of the diplococcus to multiply rapidly impresses this process with peculiar tendencies.

The life and death process of the rapidly multiplying diplococci cause the production of toxic materials which seriously affect the central nervous system, the heart and the excretory processes. *This is the chief lethal factor in pneumonia*, and not, as was formerly taught, the interference with the oxygenating function of the crippled lung. The truth of this view is proved by the fact already cited, that while a few hours before the crisis is established in this disease the patient's life seems in imminent peril, his temperature high, his pulse rapid, his face cyanotic, his vital powers prostrated, gasping for breath with distended nostrils, and just a few hours after the establishment of crisis all is changed. Temperature, pulse, respiration are almost normal, despite the fact that the affected part is still impervious. The diplococcus infection has passed its natural termination; the manifestation of pneumonia being due to the latter have ceased, but the lung still being filled with exudates is still crippled, and yet the breathing is but slightly embarrassed. Nature has accomplished a miracle which human ingenuity with all its boasted progress has failed to imitate.

Pneumonia is really not any more a lung disease than is typhoid fever an intestinal disease. It is characteristic of the Sternberg-Fraenkel diplococcus to expend this primary force upon the lung. It is characteristic of the Eberth bacillus to affect primarily the Peyer's Patches. In many respects there exists striking analogy between the two diseases. Like typhoid fever, croupous pneumonia is rare in very young children, and most fatal among the middle aged and vigorous. Its prognosis is seriously affected by the patient's previous habits and mode of life, alcoholism, etc. Both have a definite course, differing only with the difference in the nature and mode of development of the etiological micro-organism. In pneumonia considerable time is required for the lung to resume its healthy, natural condition after the serious manifestations of the disease have ceased; in typhoid fever the intestinal glands continue tender and perhaps ulcerated after the fever has ceased, so that great care must be exercised regarding diet, etc.

The favorable results of the modern management of typhoid fever has led me to adopt a similar management of pneumonia modified, however, by the special features impressed upon the latter by the difference in the characteristics of the diplococci.

infection—its origin, location, rise and decline, and the quality of toxemia induced by it.

Allow me to state briefly the elements of my present management of a pneumonia case. Let me premise that the method, if such it be, is an evolution resulting from many sad failures and disappointments from other methods.

1. *Absolute Rest.*—This should not only be advised, but the perfunctory execution of the order must be prevented. The family may be assured that the disease will be one of short duration, and that it is imperative to place all the resources of the household at the disposal of the physician. The best room in the house or apartment (especially in the latter) must be selected, where the patient may be completely isolated from the family and friends under the care of a nurse or a member of the family. He must not be allowed to leave the bed for any purpose. All mental and physical effort must be avoided. This is no easy task for the attendant we all know. The use of the bed pan and the urinal will be especially resented. I have in mind a prominent colleague in San Antonio, Texas, whom I saw during a brief sojourn in that city while enroute from California. Although the patient who so ill that his life was despaired of, he could not be prevailed upon to use the bed pan until I pointed to the fact that his pulse was accelerated and enfeebled after each visit to the toilet. I attributed his recovery from desperate straits as much to his obedience to the injunction to avoid exertion as to the other elements of the treatment.

2. *Ventilation of the Sick Chamber.*—This also demands the personal supervision of the physician. Repeatedly have I examined the windows and found them opened a few inches and the opening closed by a neatly fitting shade. In very cold weather the nurses may be guided by their own sensations in executing the order for free ventilation. It is well to direct that the nurses protect themselves by extra clothing; the patient is protected against cold by the febrile temperature and a night cap and blankets may satisfy the relatives on this point. I do not approve of placing the patient under a window, or as is now quite the vogue in my city, on a veranda, roof or fire-escape. There is no doubt, however, that the free admission of oxygen by thorough ventilation during the early course of the disease

prevents the needs of oxygen inhalations in its later stages, because it enables us to add to his resources for resisting toxemia.

3. *Food*.—Inasmuch as the patient is usually attacked in the midst of health and the duration of the disease is not long, I have adopted a moderate diet. Clinical experience teaches that in many severe types of pneumonia there occurs intestinal distension which so embarrasses the patient that sleep is impossible, and often hastens a fatal issue by interfering with respiration and disturbing the heart. It is important, therefore, to so arrange the diet that fermentation be prevented. Four ounces of broth into which a teaspoonful of barley jelly has been stirred, alternated with four ounces of hot milk taken in spoonfuls and slow sips every two or three hours, suffice during the entire period of the disease. During convalescence and after the crisis, the diet may at once be made liberal. The dread of not sustaining the patient's vitality has too often led me to ply him with concentrated foods which have served to handicap him rather than aid him in the struggle. Sleep should never be interrupted for any purpose, provided it be normal. It is my rule in all acute diseases to omit baths, compresses, medicine, food and drink during normal sleep.

4. *Drink*.—The systematic drinking of very cold water is important. The nurse is directed to administer a few drops of some placebo (usually a teaspoonful of chlorate of potassium) solution in two to four ounces of ice water every two hours. The quantity actually taken is to be made part of the record. The action of ice water upon the gastric nerves and vessels is the same as its action would be upon the skin; it refreshes it by the local shock and consequent reaction it increases diaphoresis and diuresis. I have often seen the urine doubled, and in one case of pneumonia the twenty-four hour record was 110 oz. That this method of administering ice water is far more effective as a diuretic than larger quantities of warm water is an important fact not generally recognized.

5. *Stimulants*.—In this scheme of pneumonia management the application of stimulants is rarely necessary, except in persons who are accustomed to its habitual or frequent use, and to whom it is necessary as food. Among many illustrations of this practice I may mention a consultation case of grip-pneumonia, the patient being sixty-five years old, a diabetic, and the

urine giving acetone reaction. Both lungs became successively involved, the case became desperate, and yet the management here outlined sufficed to carry the case to a favorable issue. Of course the acetemuria was met by large doses of bicarbonate of soda per rectum. In a case of pneumonia in my own family, two teaspoonful of brandy were given occasionally to cheer the despondent patient (by suggestion). This was the only stimulant administered, although the case was of desperate type. Patients accustomed to alcohol may receive one or two ounces of brandy every three hours, according to their previous habits. The prognosis in these patients is almost always fatal, because their peripheral vessels have been enfeebled by dilation produced by alcohol, and their nervous system deprived of capacity to respond to cold applications.

6. *Medication.*—I will pursue the custom learned in these halls from that splendid practitioner, Dr. ———— Tueker, to open all cases of pneumonia with eight or ten grains of calomel, for the purpose of clearing the decks for action, as it were. The calomel is administered dry upon the tongue and washed down with water. How much may be contributed to the good result by the well-known property of mercury of destroying the diphtheria, which is most abundant in the mouth, I am not prepared to claim. Several copious stools result; if these are absent, they may be furthered by citrate of magnesia administered six hours later. Calomel is probably the best intestinal antiseptic we have. All fermenting material being thus removed from the intestinal canal, the distension which so often handicaps recovery in the advanced cases of pneumococcus toxemia is prevented. Small doses of calomel—one-tenth of a grain frequently repeated, which are so much in vogue, irritate the intestinal canal and disturb rest by their frequent administration. Strychnia is sometimes useful when the first sound of the heart becomes feeble. It should be administered by the physician hypodermically in doses of one-thirtieth grain, unless slight trismus is noticed it is inert. The precordial ice bag, intermittently applied, is superior to strychnia as a cardiac tonic. It should be removed every half hour for fifteen minutes. Small doses of the coal tar preparations are often used as calmative agents when the restlessness is due to high temperature. One dose of six grains of antipyrin once in twenty-four

hours is far more useful, and certainly more safe, than chloral or sulfonal. The routine application of antipyretics for temperature reduction is damaging to the heart and excretory organs, but the infrequent administration of one dose to allay restlessness due to high temperature is valuable. The mouth should be kept clean and sweet by gargling with a saturated solution of chlorate of potash every hour.

7. The judicious application of water, adapted as I shall show to the therapeutic indication of each case, is the most efficient single aid to the organism in its battle against the diplococci infection. The application of water much below the temperature of the skin accomplishes the object satisfactorily, provided it is executed with precision and due regard for the physiological action of cold and the needs of the case. Failure results more surely from careless or perfunctory application of water than from injudicious administration of other remedial agents. Let me quote from a recent otherwise reliable text-book which deserves to be placed in the hands of medical students: "Cold to the chest—an ice bag of great value in many cases. When applied to the heart it is an excellent cardiac sedative; the use of ice to the pericardium often enables digitalis to act better." The author fails to tell his readers how he manages to apply ice to the heart or to mention that continuous application may produce harm. Another work on pneumonia refers to enveloping the chest in an ice bag as the chief remedy. The author claims that it acts favorably on the process in the lung, lowers fevers, but should never be used long enough to chill the patient; but while fever remains above 101° F. it should be used incessantly unless patient is feeble." Note the contradiction in this one sentence. If the process in the lung is sought to be influenced, the ice bag must be wrapped around the chest or at least be applied to its posterior surface. How many patients will bear the discomfort of such an application? How can chilling be prevented if it is applied incessantly? "Delirium," says another author, "is best controlled by moderating fever by the use of cold to the head and to the body in general if needed be, in the form of the sponge bath with friction and by the use of bromides and morphia." Now, while this author advises the most important element of a cold sponge bath, the friction, and thus demonstrates that he understands

hydrotherapy better than many others, he fails to state the temperature of the bath—a most serious omission, since cold water is water running from the cold faucet and would be as high as 75° F. in summer, and as low as 45° F. in winter—a difference in temperature that may be fatal to success. These quotations illustrate the vagueness and unreliability of the best text-books when advising hydrotherapy.

The chief point to which I desire to direct your attention is that water must be used with the same judgment and skill as other agents—digitalis, strychnia, etc. Whenever the perfunctory prescription of a cold bath, a warm bath shall be replaced by ordering a bath with a definite temperature, of definite duration and definite technic, then the results from hydrotherapy will become satisfactory. A justly eminent paediatrist said in a paper before the New York Academy of Medicine: “When the temperature is F. 103°, 4, 5 or 6, I use cold baths and cold packs.” He omits to tell his hearers how cold the bath or pack is to be, or what its duration and frequency of repetition, but when he discusses certain medicines he emphasizes the necessity of exact dosage.* I could cite many other examples to demonstrate that it is high time that medical colleges taught the correct uses of water, which is really a most important and flexible auxiliary in many diseases.

In the pneumonia of children under ten years, in whom pleurisy is usually absent, the full bath in a tub filled two-thirds with water at 85° F. given with constant friction for ten minutes, is an extremely useful procedure whenever the rectal temperature is above 102.5° F. The patient should be quietly taken from the bath and placed into a linen sheet with which he may be rapidly dried. The heart is calmed, respiration deepened and slowed, expectoration promoted; temperature reduced, sleep often follows. This bath may be repeated with advantage every four hours if the patient is awake. I have abandoned the tub bath in adults because of the disturbance of the patient being more damaging than it is in typhoid fever, on account of the frequent presence of pleurisy. However, the toxemia of pneumonia is rarely so intense as it is in typhoid fever, and the temperature yields more readily to

* *The Principles and Practice of Hydrotherapy.* By Simon Baruch, M. D. Third Edition. William Wood & Company.

less heroic procedures. Clinical experience has convinced me that a more frequent and less intense application of cold water is indicated in pneumonia. For these reasons I have adopted a mild and effective procedure, termed the WET COMPRESS. The systematic application of the chest compress is the most important element of the best management of pneumonia. The chest compress is prepared in the shape of a vest without anterior openings.

Three pieces of coarse linen are cut according to the pattern in such manner that the front portions will overlap an inch. When applied the compress should fit snugly from the nucha to the floating ribs posteriorly, and from the clavicle to the umbilicus posteriorly around the entire chest and cover the clavicle with its flaps. A piece of thin flannel is cut to the same pattern, but an inch longer and wider. Two sets should be prepared. The linen portion should be hemmed to make it fit snugly. Before the application of the chest compress the windows must be closed. The patient being exposed, he is gently turned to the left; the compress is wrung out of water at 60° F. (this being the temperature adapted to the average case, and to be modified as will be shown), the wet linen is now laid smoothly on the previously outspread flannel, leaving a margin of flannel around the entire edge. The entire compress with its flannel cover is now rolled half way, and the rolled up portion is laid against the left side, while the remainder is spread upon the bed in such manner that the upper edge reaches the nucha. The patient is now gently turned back toward the right, so that he is laid upon the outspread portion of the wet compress. The rolled portion is drawn forward from beneath the left side of the patient, and is rapidly wrapped upon the chest; the other portion is also made to cover the right anterior chest, and the shoulder flaps are secured to the front; the flannel covering is now wrapped over the wet compress and its edges secured with pins quite snugly, but not too tightly to embarrass respiration. If the compress is applied in this manner the patient will not be disturbed except by the gasp which follows the sudden impact of water so much below the body temperature—a salutary effect, as I shall show. When the body temperature is high the compress may be allowed to retain more water; but care should be taken that the bed be not damp

Nurses are apt to prevent the latter by an impervious covering; this is an error; it converts the compress into a wet dressing or poultice, which may elevate instead of reducing the cutaneous temperature. The compress should be changed every half hour if the temperature is below 103° , otherwise every hour until the temperature is below 100° F. in recto, when it should not be renewed at all and removed when dry. One important guide in changing the compress will prevent chilling, viz.: let the nurse always ascertain by introduction of the finger if the linen is warm, and never change the compress unless it feels warm. The removal of the compress is as follows: The new compress is made ready; the flannel is unpinned and the entire compress removed from the anterior portion of the chest; the patient is now rolled upon his left side and the entire compress is removed with the least possible disturbance the fresh compress is applied as described. Although the average useful temperature of the compress is 60° , there is much latitude needed. Experience must decide upon the changes in temperature, duration and technic when the ordinary compress fails. The rationale of this procedure should be well mastered in order to make the needed changes judiciously. The sudden impact of cold upon the chest walls has the same effect which is observed from a dash of cold water upon the chest of a fainting woman; there is a gasp more or less pronounced, due to the irritant action of the low temperature upon the nerve terminals which is reflected from the central nervous system through the vagus upon the inspiratory muscles visibly and upon the heart invisibly, but positively as shown by the pulse. The primary refreshing effect being upon the nerve centers, the patient becomes bright. One of my patients remarked, "Whenever I began to feel 'dopy' I thought it was time for a new compress." The stimulant action of cold upon the reflex cutaneous areas is conveyed to the dorsal spinal ganglia, which control the pulmonary circulation. Physiologists tell us that the reflex area, lying between the scapulae is connected with the second, third, fourth and fifth dorsal ganglia, and the epigastric reflex area, located on the lower lateral portions of the skin covering the chest, is connected with the fourth, fifth and sixth spinal ganglia. This physiological reflex may explain why our forefathers observed such good effects from poultices and blisters applied to the chest. I be-

lieve the rationale of action of the cold, wet compress rests upon this physiological and anatomical basis. Moreover the classical experiments of Romberg, Poessler and Rolly with injections of pneumococcus cultures into rabbits have shown that heart failure, which is the chief danger in pneumosia, is due primarily to the disturbance of equilibrium in the vaso-motor system. The resistance at the periphery being lost by reason of the pneumotoxin action upon the peripheral vessels, the blood flows so sluggishly through them that the heart is driven to great exertion in the effort to maintain life; the tension of the arterial system being greatly diminished, an increase in the number of pulsations is demanded from the heart. This demand often cannot be responded to; the heart labors harder and harder until it fails entirely. Clinical observation had long ago convinced me that by improving the cutaneous circulation by cold hydropathic procedures the action of the heart was manifestly improved ("The Uses of Water in Modern Medicine," 1891), and that the chief benefit of the cold bath was not reduction of temperature, but refreshment of the nervous system and consequent improved cardiac action. Not until the experiments of Romberg were published did I realize the true reasons for this marvelously beneficial result on the circulation.

The cold compress contracts the muscular fibres which are in the skin and then presses the blood out of the capillaries, thin endothelial tubes, without elastic and muscular coats. This narrowing of the cutaneous vascular area of half the trunk must, in connection with the reflex stimulation from the impact of cold, cannot fail to improve the vasomotor system upon which the toxin exerts its chief effect. The heart is relieved by reason of restored resistance at the periphery, the ventricular impulse is enhanced, the pulse becomes slower and steadier, and loses its dirotic character; stases are prevented because they are almost inwardly due to enfeeblement of the peripheral circulation. A normal *vis a tergo* is thus established, which is more salutary than the driving of the heart by digitalis and stimulants. The latter would only aggravate the failure at the periphery, just as would nitro-glycerine, which is too often injudiciously resorted to in these emergencies. The most important element of this management of pneumonia is, let me repeat, not to await the establishment of heart enfeeblement

with its serious hypostases, etc., and to treat them with strychnia, digitalis, nitro-glycerine and alcohol, but rather to maintain the integrity of the peripheral circulation from the outset in a nearly normal state, and thus avoid the dangers which so frequently assail the pneumonia patient and contribute to a fatal issue. As in typhoid fever, the application of cold water must be chiefly prophylactic, to forestall lethal complications. The elimination of urine toxins is enhanced by the improved circulation in the glandular structure of the kidney; the toxicity of the urine is unchanged as shown by the experiments of Roque and Weil. The increase of urine has already been referred to.

Temperature is moderately reduced by this treatment. After each compress the surface is cooled, but reaction follows which restores vascular tone and stimulates diaphoresis. The compress becomes warm and the moisture evaporates through the thin flannel covering by capillary attraction. Cooling of the skin ensues, as may easily be noted when the compress is removed the skin is cooler than the compress. You will perceive how an impervious covering must neutralize this effect by converting the compress into a poultice which relaxes the vaso-constrictors. Cold stimulates the vaso-dilators and enhances the propulsive resiliency of the arterioles. The dyspnoea which, as all careful observers know, is often out of proportion to the lung area involved, is almost always relieved if it be not prevented by the compresses. This fact confirms my view that dyspnoea, not traceable to pluri-sy, is a nervous symptom due to the pneumotoxin and not to the obstructed lung. The patient rarely dies of apnoea, as I was taught, and as many now believe. That this is true is demonstrated by the clinical and indisputable fact that while a few hours or less before crisis ensues the patient may be gasping for breath and tossing under high temperature with a rapid pulse, after the crisis is established the dyspnoea disappears with the other serious symptoms: the patient falls into calm slumber, his respiration becomes quiet, and this despite the fact that it is impossible for so decided a diminution in obstructed area to have taken place in so short a time as would produce so marked a diminution of dyspnoea. The physical signs testify that the consolidation has not increased in the brief time intervening. It

is a peculiarity of the cold compress treatment that crisis rarely occurs and that the lungs become pervious very slowly even after the patient is convalescent and out of bed. For pleuritic pains and the dyspnoea sometimes arising from it, small hypodermics of morphia are the best remedy.

Clinical results are after all the true test. While I can offer you no statistics from private practice, I may state that the New York Board of Health has but two death certificates signed by myself during the last fifteen years of an active family practice. That the modern management of pneumonia depends upon prevention of lethal complications is also proved by the sad fact that in hospital practice the disease is still very fatal. In my last service at the Hood-Wright Hospital four cases died in three days; having been admitted respectively six, twelve, twenty and thirty-four hours before death. Nevertheless the mortality in 156 cases collected by the then house physician, Dr. Albert Wittson, shows a reduction of 50 per cent. over that existing prior to the management of the disease.

As in typhoid fever, our most reliable statistics are derived from military hospitals in which patients are treated early and by well-trained attendants. In the military hospital at Dresden (200 cases) the mortality under the wet compress treatment was only 1.6 per cent., and Dr. Nesper of the Austrian Army reports ninety cases with one death.

There exists such dread of cold water in the minds of the lay people that the courage of conviction is demanded in the substitution of the cold compress for the hot poultice.

The shrewd business tact of the drug manufacturers has not been slow of availing itself of this prejudice. As a result the preparation called antiphlogistine has now attained great vogue. Being composed of kaolin, which possesses the faculty of retaining temperature, it really fulfills some of the indications of the wet compress, when applied cold, and of the warm poultice when applied warm. But it lacks the most important beneficent action upon the vasomotor system of the compress at 60° changed hourly.

I have endeavored to present for your consideration and adoption a method of managing pneumonia which has brought me comfort and satisfaction, and to my patients restoration to

health from desperate straits. Three colleagues have testified to the value of this management in their own cases. One noted Virginia doctor, a graduate of the University of Virginia, who has a large clientele in New York, was attended by Drs. Ewing and A. A. Smith, when disparing of this valuable life I was called by them. The wet compress was applied under my direction (the first water treatment should always be applied under direction of the physician). The doctor recovered, and he has repeatedly told me that he was unconscious of his illness when he was aroused by the cold compress on his chest. His splendid wife, a Virginia woman of whom we Southerners in New York are proud, puts me to the blush every time I meet her at a function by presenting me as her husband's saviour. The late Dr. P. C. Cole has reported the case of another colleague who was treated with the usual methods with unfavorable outlook, and who recovered from double pneumonia despite the fact that he was addicted to morphine and alcohol. The third case was a prominent physician in San Antonio, Texas, whose impending death was announced in the morning papers. Dr. A. Herff asked me to see him; the wet compress was applied and the patient recovered.

In conclusion let me say that I believe the prognosis of this fatal disease would be materially changed by the universal adoption of the simple management I have delineated. It would be exceedingly gratifying if any of my hearers would report the results with it, whether favorable or not. I strive for truth, not glamor. The interests of suffering humanity tower far above all personal considerations.—*The Old Dominion Journal of Medicine and Surgery.*

SOME OBSERVATIONS UPON THE SURGICAL ANATOMY AND MECHANISM OF THE COLON.

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Until comparatively recent years diseases of the colon and sigmoid, and the surgical anatomy of each, received but scant attention. Recently, however, much valuable information upon this subject has been developed. Robert Coleman Kemp in

his work on Diseases of the Stomach and Intestines says that Dr. J. M. Mathews was the first to call attention to sigmoiditis and diverticulitis of the sigmoid.

The entire length of the large bowel in situ is found to be much shorter than when it is dissected from its attachments. An ordinary thirty-inch colon tube has sufficient length to extend around the lumen of the large bowel to the cecum. While this has not been done in the living individual it has been done in the cadaver and radiographs of the same are on record.

It is almost universally believed that ordinary flexible colon tubes can be manipulated in such a way as to traverse the entire course of the large bowel around to the cecum. It has been proven by a number of investigators that such an achievement is impossible in the normal bowel. The average length of the sigmoid is about eighteen inches, and this being a floating portion of the large gut it is almost impossible for an instrument to pass beyond the middle half of the sigmoid. Should such be possible and the tube enter the descending colon it would be a physical impossibility for it to pass either the acute angle at the splenic flexure or the hepatic flexure. The failure of instruments to pass high into the bowel has been demonstrated by X-ray pictures.

Dr. Hanes demonstrates the difficulty in passing any instrument through the hepatic and splenic flexures by introducing a thirty-inch, No. 20, French, soft rubber, catheter into the caput coli in an old appendicostomy case. He failed by any kind of manipulation to pass the catheter through these flexures. The tube was allowed to remain in the head colon for twenty-four hours with the hope that peristalsis would carry it around, but this failed. After manipulating the second time three hours later four inches of the catheter appeared through the anal opening.

He forced bismuth solution into the head of the colon till the wall of the gut was thoroughly distended and then Dr. E. Bruce made a skiograph. No regurgitation into the ileum occurred. This experiment was repeated a number of times with the results as above given. If the ileocecal valve allows no reflux into the ileum then exceedingly large amounts of water injected into the bowel are retained in the large gut.

and not a part of the amount passed into the small bowel as is supposed by some.

In an old appendicostomy case, with the patient on the left side, coal-oil was poured into a colon tube that had been introduced three inches into the rectum. In six and a half minutes the oil was flowing out of the appendicostomy opening. The amount employed was thirty ounces. This clearly demonstrates that liquids will easily pass around the entire colon without flowing through a tube. The point is also made that coal-oil is much less irritating to the mucosa than plain water or ordinary aqueous solutions.

The capacity of the large bowel in situ was measured by temporarily closing the opening of an appendicostomy case and allowing coal-oil to flow into the rectum as long as the patient could tolerate it. At a later date the same experiment was made by allowing oil to flow into the head of the colon. About the same amount of oil was received in each case. After making the same experiments in other cases it was decided that the average large bowel had a capacity, varying between fifty and six-four ounces.

The capacity of the rectum was ascertained by inverting the patient and placing a colpeurynter at the junction of the sigmoid and rectum, just within the sigmoid. The colpeurynter was then distended with air until no fluid could pass into the sigmoid. Coal-oil was allowed to flow into the rectum till no more could be received. It was then drawn off with a catheter and the average amount was found to be between fourteen and seventeen ounces.

He insists that the Inverted Position (Hanes) is much to be preferred by both patient and operator when any kind of illuminating instruments are to be employed in the rectum or sigmoid.

Sudden anuria may be the first symptom of a carcinoma of the cervix in an apparently healthy woman.

Recent Progress

INTERNATIONAL LIST OF CAUSE OF DEATH.

Census Director Durand will submit in the near future to Secretary Nagel, of the Department of Commerce and Labor the manual of the International List of Causes of Death, based on the second decennial revision by the International Commission which met in Paris in 1909. In his letter of transmittal the Director states that it contains many additional terms not found in the original translation of the report of that commission, and will be of special service to American registration offices whose returns supply the material upon which the mortality statistics published by the Bureau of the Census are based. It was prepared under the direction of Dr. Cressy L. Wilbur, chief statistician for vital statistics of this Bureau.

Remarkable Progress of Classification.

In the introduction of the manual it is stated that the progress of what is known as the International Classification of Diseases and Causes of Death is most remarkable. It can be explained only by the fact that there was a widely recognized need for national and international uniformity of classification, and that the system proposed met fairly well the demands of registration offices and of the users of mortality statistics and proved capable of progressive development as those demands changed with the advance of medical knowledge.

As late as 1893 no two countries in the world employed precisely the same forms and methods for the statistical classification of causes of death, the compilation of which is universally regarded as of the utmost importance for the advancement of sanitary science and practice. This lack of uniformity rendered the statistical results of such classification incomparable, and it was imperative that an effort be made to remedy this defect.

The past eighteen years have seen the successful accomplishment of this task, at least to a degree that warrants the most sanguine hopes of ultimate success and of the early approach of the time when all nations shall be in agreement in this respect.

The measure of this success may be inferred from the large number of countries represented at the sessions of the International Commission in 1900 and 1909, as given in the official reports of the proceedings, although all countries that employ the classification were not represented by delegates in 1909. In a paper before the Fourteenth International Congress of Hygiene and Demography, held at Berlin in 1907, Dr. Bertillon estimated that the system was in effect for over 212 millions of population. This estimate was a very conservative one, the United States being credited with only the population (33.1 millions) shown for the registration area in 1904. Since the meeting of 1909 the very important accession of Great Britain has been received.

The Countries Co-operating.

Many countries, among them the United States, that have expressed their cordial approval of the International List and have adopted it for practical use so far as material is available for the statistical compilation of causes of death, do not enforce the complete registration of deaths throughout their entire territory. This is not the case, however, in the British possessions, for as an almost invariable rule there is thorough registration of vital statistics wherever the British flag flies. The addition of the British Empire is thus a most important one.

All the English-speaking and Spanish-speaking countries of the world are now united in the adoption of the International List. The entire Western Hemisphere, including North, Central and South American; Australia and New Zealand; China, Japan and British India in Asia; Egypt, Algeria and South Africa in Africa; and many countries of Europe are now, or soon will be, represented among those thus seeking international uniformity. Progress during the present decade should be even more gratifying, and by the

time of the Third Decennial Revision, which is to be made in 1919, it may be hoped that all countries will join in the movement.

The manual states that the International List of Causes of Death makes no pretension of being a proper nomenclature of diseases or of including a scientific classification of diseases. It is only a practical working list whereby statistical compilers can assign medical terms reported by physicians as causes of death to certain more or less definite titles representing individual diseases or groups of diseases of similar character. Statistics of causes of death are vitiated to a considerable extent, and sometimes to a very large extent, by the fact that many deaths are reported under what the Committee on Nomenclature of the American Medical Association very graphically calls certain blind returns. How applicable this phrase can be appreciated most fully by those who have puzzled over returns as received in registration offices, and inspection of the many unsatisfactory and indefinite causes included in the manual will make it clear that reform is necessary in order to place our statistics of causes of death upon a satisfactory basis.

Importance of Exact Statements.

Satisfactory statements of causes of death can be obtained only by means of a high degree of co-operation between members of the medical profession and the registration authorities. It is desirable that physicians appreciate the importance of exact statements of causes of death and realize, by means of study of the statistical results, how certain forms of reports may lead to misunderstanding and inaccuracy. An essential requirement is that the blanks employed for the statement of causes of death be uniform, as otherwise specific instructions cannot readily be given. A very satisfactory result of the general adoption of the United States standard certificate of Death, as recommended by the American Public Health Association and approved by the Bureau of the Census, is that uniform instructions can be employed for a very large proportion of the registration area.

In order to familiarize physicians with the general statement of the International List of Causes of Death, a vest-

pocket booklet was prepared and distributed directly by the Census Bureau each year to all physicians of the United States, as well as to many thousands of local registrars through their State registration offices.

History of Nosology.

Nosology, or the scientific classification of diseases, was cultivated with fervor a hundred years ago, and was believed to be a necessary part of the knowledge required for the practical treatment of disease. The system devised by Cullen in his "First Lines of the Practice of Physic," came to be the predominant one, although many other systems were presented, among them those of Sauvages, Linnaeus, Vogel, Sagar, Macbride, Young and Mason Good. All these systems have vanished; the subject is almost entirely neglected at the present day, but its influence may be traced in the forms of statistical lists in present use. Dr. William Farr found the Cullenian system in general use in the public services at the time of the establishment of the modern system of registration of deaths in England. It had not, however, been revised to meet the demand of the advances of medical science and was not suited to statistical purposes. One of Dr. Farr's first duties, therefore, was to prepare a "Statistical Nosology," which had a marked effect upon subsequent classifications, including that of the Second Revision of the International List.

As a result of his practical experience with this system Dr. Farr was selected, together with Dr. Marc d'Epsine, of Geneva, by the First Statistical Congress, Brussels, 1853, to prepare a report upon a classification that might be used in all countries for the statistics of causes of death. The resolution to this effect was introduced by Dr. Achille Gullard, a distinguished botanist and statistician, creator of the word "demography," and maternal grandfather of Dr. Jacques Bertillon, to whose efforts the present success of the International List is chiefly due.

This was the beginning of the present International List. The classification was adopted in Paris in 1855, in Vienna in 1857, and was translated into six languages. Again revised at Paris in 1864, 1874, 1880 and 1886, the final form was substantially that which was recommended by the International

Statistical Institute, the successor of the old Statistical Congress at Chicago in 1893, and which, after the First Decennial Revision of 1900 and the Second Decennial Revision of 1909, is now the International List in force in a large number of countries for the decade beginning January 1, 1910, and ending December 31, 1919.,

Department of Commerce and Labor, Bureau of the Census, Washington, D. C.

Released for use September 7, 1911.

"HEAT WAVES" AND "HEAT STROKES": CLIMATIC CURRENTS, ATMOSPHERIC AND OCEANIC.

John Knott, Dublin, Ireland (Medical record, August 5, 1911), states that changes in the atmosphere affect the physical and mental condition of the body. He seeks a reason for the ill effects of the east wind. Climate is dependent on aerial currents. The mild oceanic climate of western Europe is due to the distribution of the permanent aerial circulation over the Atlantic basin, taken with the moderating effects of the proximity of this great ocean reservoir. There is a great cyclone in high latitudes, and an enormous anticyclonic eddy in mid-latitudes. The great mid-Atlantic anticyclone is the cause of the good climate of Europe, not the Gulf Stream, whose existence is based on a false conception. In the body the great furnace for the production of heat is the muscular system. The effect of hot weather is to lower the evolution of muscular heat by lessening exercise. Cutaneous transpiration also lowers heat. Climate is an important factor in national character. Latent heat is heat used up in changing the state of a body without changing its temperature. There are fusion heat, evaporation heat and expansion heat. The ocean warms slowly during the day while the land warms quickly. Hence at night there occurs the refreshing sea breeze, which flows toward the land, the cool air flowing to supply the place of the heated air that boils upward from the hot land. Climate varies with latitude and altitude. The suspended aqueous vapor of the atmosphere, derived from the water surface of

the whole globe, exercises great influence in making and breaking climate. Where clouds overhang they form a blanket to keep in the heat. Woolen textures are often cooler than cotton because they carry within themselves large quantities of imprisoned air. They keep out both cold and heat. Misdirection of latent heat is the cause of chill resulting in inflammation. Evaporation of moisture draws off heat from the body. The sea-water bath is more refreshing than the fresh-water one because of the latent heat of fusion of the saline compounds left on the skin. The cutaneous transpiration renders large amounts of heat latent, and thus cools the body. The tendency of currents at the equator is vertical. The return currents have their directions modified by the rotation of the globe, until there is an oblique direction of the current. Local eddies are general in the ocean surface. Specific heat and latent heat of evaporation have an immense influence on the temperature. Latent heat evaporation acts as a leveler or regulator of temperature.

CERTIFIED AND PASTEURIZED BUTTER.

A. F. Hess, New York (Journal A. M. A., August 12), calls attention to the question of infection through butter. It is established that tubercle bacilli rise in the cream and that bovine tuberculosis can be transmitted to children. It is difficult to state the contamination of butter by tubercle bacillus, but he thinks we will not be far wrong if we accept Cornet's estimate of 12 per cent. for that sold in large cities. Recent investigations have pointed strongly to the milk-supply as a source of typhoid fever, scarlet fever, diphtheria, and, possibly, other diseases. It has been demonstrated by Bruck that typhoid bacilli can maintain their virulence for at least twenty-nine days in butter. The question whether salting and cold storage mend matters is not settled as regards the pathogenic bacteria, though it is generally held that they have only a mild inhibiting power against saprophytic bacteria. The public has not been warned against the dangers of contaminated butter as it has against those of contaminated milk, and Hess admits that they are of secondary importance though still worth heeding. The certification of butter should impose the

same requirements as those for certified milk, besides specifying that the manufacture of the butter must be done under like sanitary conditions. Certified butter, therefore, can hardly come into general use; its cost would be prohibitive. Some persons, however, would be willing to pay the price for safety, and he hopes to see the experiment tried. Pasteurized butter, however, will be within the reach of most at slight additional cost. It is the staple butter in some countries, such as Denmark. The physical qualities of the butter are not changed by pasteurization, and Hess believe it is high time we should have such a product on the market, especially for children's use. In New York, he says, a butter of this kind will be put on the market in the near future, costing 5 cents more than the raw product. He says this increase in price is permissible at present, but he does not think it will be found necessary when the demand is determined and found adequate. It will be another step, he thinks, along the road of preventive medicine.

A DARWINIAN INTERPRETATION OF ANAPHYLAXIS.

R. G. Eccles, Brooklyn, N. Y. (*Medical Record*, August 5, 1911), interprets anaphylaxis as a means of defense of one organism against the attacks of another, one of the results of natural selection. Anaphylaxis consists in a poisoning resulting from the injection of the proteids of some other organism into the blood. Each organism can receive the proteid of his own species without harm, but poisoning results from the reception of a serum or proteid of an alien organism. This toxicity exists for vegetable as well as animal proteins. Injections of dead bacteria at intervals of ten days produce marked disease symptoms. All the anaphylactic manifestations are associated with eosinophilia. We seem to be approaching an all-embracing principle with which to link together medical facts, and which will simplify medicine incalculably. The reason why these proteins do not constantly poison one is that they are destroyed by digestion in the intestine before they reach the cells which they would poison. Evolution has improved gradually upon the digestive apparatus in this protective line so that the organism is well defended against alien proteins. In the blood

these proteins are found again converted into proteins, but with their constituents rearranged so as not to be toxic any longer. Thus in evolution the poison of today becomes the food of tomorrow. The food and not the bacteria contain the poisonous substances as pro-poisons existing in it. Among these pro-poisons existing in it are the amino-acids, which are important constituents of the proteins. Digestion is a reserve process to growth and separates the amino-acids from one another. Blood serum and cell proteins are composed of the same kinds of substances, the amino-acids and polypeptic combinations. The linking together of amino-acids through reverse enzyme action occurs in the building of proteins. Anaphylaxis is due to an attempt to digest more alien protein than the cells can take care of in respect to their toxic products, and some damage is done to the cells in the sensitizing stage. Tyrosin, cystin, and tryptophan are present in all kinds of proteins. Substances that have reducing power are especially toxic. These substances are non-toxic until broken up in contact with the nuclei of the cells. The nuclei of the phagocytes show evidence of great injury by these poisons.

CHRONIC PANCREATITIS.

J. B. Deaver, Philadelphia (*Journal A. M. A.*, July 1), says that it is well known that an important cause of pancreatic disease is found in what Mayo has called the unfortunate terminal facilities of the liver and pancreas. It has become evident also that pancreatic disease is much more frequent than was formerly supposed. He describes the anatomic conditions and says that it is not necessary that lodgment of gall-stones should take place, but that cholecystitis and cholangitis must be present in the majority of inflammations of the organ, though the occurrence of a primary pancreatitis must be admitted. The milder forms cannot always be recognized and chronic pancreatitis may simulate gall-stone disease and even produce the distinctive Charcot's syndrome of hepatic intermittent fever. A case illustrating some of the difficulties of diagnosis is reported. Pancreatitis is an adult disease, the average age being about 44. The predisposing causes are chiefly the same as those of gall-stone disease and the recognition depends on the clini-

cal history, physical examination and the special tests for disturbed pancreatic function. As regards the clinical history, the symptoms are not sufficiently definitely characteristic of pancreatic as separated from biliary disorder and the physical examination is not usually of very great service except in cases of very thin individuals. Simple tenderness in the epigastrium is a very misleading sign and should not carry much weight unless very marked. The gastric analysis in his experience has usually shown a subnormal acidity, less than that which is usually present with gall-stones. He has, therefore, to depend largely on methods of determining functional disturbance of the organ. It is well known that carbohydrate metabolism is closely dependent on the pancreas, and especially on the special functions of the islands of Langerhans, as we have reason to believe. In two out of sixty cases of pancreatitis analyzed, as regards the symptoms, there was slight persistent glycosuria, and he has seen other cases in which glycosuria was present during exacerbations. The assimilation limit for carbohydrates may be lowered also in still other cases which under ordinary diet do not show glycosuria. That this is not more frequent is due to the fact that small portions of normal pancreas are sufficient, and that, as Opie has shown, there are two chief varieties of chronic pancreatitis, the interlobular and the intraacinar. In the former the sclerosis affects almost exclusively the interlobular septa and the islands of Langerhans are intact. In the intraacinar type the fibrous tissue invades the lobules themselves and may cause early degeneration of the islands. It is the interlobular type that is most liable to follow obstruction to the pancreatic duct and gall-bladder or biliary disease. Cammidge's test, consisting of demonstration in the urine of certain special crystals believed to be derivatives of a pentose, is complicated. Deaver finds it pretty constant in acute pancreatitis and in the exacerbations of the chronic form, but he has not found it in the latter apart from these. Examination of the feces is important and large fatty diarrhoeal stools are strong evidence of insufficient pancreatic function. These, however, occur only in late and extensive disease of the organ. Earlier, constipation is the rule. Undigested muscular fibres may possess some significance if marked, and the presence of stercobilin in feces, showing an excess of fat, neutral or neutral

and split, is a point in favor of disturbed pancreatic function. To recapitulate he says: "Chronic pancreatitis may be suspected of having complicated gall-stone disease when the symptoms point to severe recurrent disease of the choledochus with marked emaciation and disturbance of the carbohydrate metabolism or evidence of insufficient action of the pancreatic ferments on the food in the intestine." The treatment is closely bound up with the surgery of the bile passages. As Mayo Robson has shown, free drainage of the biliary tract, and, through this, of the pancreatic duct, may in many cases enable the pancreas to cast off the infection. This is the principle of the treatment. The best cure, however, is prevention by prompted in biliary diseases.

ABDOMINAL INJURIES.

H. H. Sherk, Pasadena, Cal. (Journal A. M. A., March 11), remarks on the frequency of injuries of the abdominal viscera without external lesions, and emphasizes their importance. He notes at length the irregularities of the symptoms and the necessary difficulty in diagnosis, reviewing also the method of infliction of such injuries and the liability to and mechanisms of the lesions of the different abdominal organs. He insists on careful examination in every such case and continuance of the observation over a period of several days or more. No matter how slight the symptoms referable to the abdomen, the possibility of visceral injury must be considered, regardless of the point of injury or the external force employed. The degree of violence has often no relation to the extent or severity of the injury to the internal organs, and an investigation as to the exact details of the accident or violence is essential for the diagnosis. Blows, kicks and crushing violence cause most of the intestinal injuries; compressive force is the most common cause of liver trauma and concussion is responsible for most of the splenic ruptures. The presence or absence of peristalsis is of the utmost diagnostic and prognostic importance and has not, he thinks, been duly appreciated. The early presence of a peristalsis indicates that the abdomen or its contents has received some shock or violence, and its persistence or recurrence is a conclusive proof of internal or

visceral injury. Any decided lessening of peristalsis is a danger signal if it occurs more than three or four hours after the injury. Active peristalsis, on the other hand, is always encouraging. There are no pathognomonic symptoms of abdominal injuries, most of them being common to all injuries, but in general progressively increasing shock indicates trauma of the solid organs, while early symptoms of peritonitis follow that of the stomach or intestines. Pain as an initial symptom is important only as calling attention to the fact that an injury may have occurred and, possibly, by its location, showing the possible site of the injury. Shock has no diagnostic value except by its progress or course, which is of great importance. Sherk emphasizes the point that an exact diagnosis, though highly desirable, is not absolutely necessary. The main thing is to early recognize the probability of visceral injury and act accordingly. The analysis of statistics he gives points out that the better course is to do exploratory operation rather than to wait in doubtful cases till a more positive diagnosis can be made. A bibliography of the general subject and an extensive list of reported cases is appended.

TONSILLECTOMY.

G. E. Gwinn, San Antonio, Tex. (*Journal A. M. A.*, January 21), says that to perform complete tonsillectomy, i. e., to free the tonsil with its investing capsule intact, the first thing to do is to be well grounded in the anatomic relations of the part, and, second, to keep inside the tonsilar space. By doing this we can avoid the causes of hemorrhage. He describes the three principal arteries of the tonsil and points out the importance of avoiding any injury to the muscles bounding the sinus tonsillatus. He does not advise using the finger to separate the tonsil. Nor does he consider tonsillectomy necessarily a hospital operation. He has had equally good results at the office or home. He prefers local anesthesia with a 10 per cent. cocaine solution applied once or twice, not more. For general anesthesia he uses ether exclusively. For injecting tissue around the tonsil, he uses a solution of epinephrin and codein injected at the upper, middle and lower portions of the anterior and posterior pillars respectively, and also in the

supratonsillar fossa, one or two minims at each point. After due antisepsis he grasps the tonsil with a special tissue vulsellar-forceps of his own design, one blade in the supratonsillar fossa and the other under the tonsil proper. With this method the tonsil was rarely friable enough to tear out, and, if fibrous, there is both surface and deep hold, making it doubly secure. He pulls the tonsil inward and forward, and, if the fibrous bands are not too densely united to the pillars, no dissecting is necessary, but he releases and inserts the forceps through the tonsil snare, also of his own design. Then grasping the tonsils as described, he pulls it inward and forward at the same time pushing the fender, carrying a number nine piano wire, backward and outward so as to bring the top of the fender in the supratonsillar fossa, the shaft acting at the same time as a tongue depressor. The handles of the snare are gripped as soon as the wire is released; its tendency is backward and outward, following the tonsil back and cutting it off at its base. If the uvula by accident should have been pressed back by the fender it will be released before the tension is great enough to injure it. If the tonsil is fibrous and densely adherent, he dissects it loose from the borders of the pillars with a wave edged knife and proceeds as previously stated. For after treatment, he swabs the throat with a 12 per cent. solution of phenol and glycerin. From 10 to 15 drops of phenol in 8 ounces of water, gargled, makes a grateful wash and ice held in the mouth is also useful. Liquid diet and quiet should be ordered for the first three or four days.

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Needle thrusts are often only slightly painful and thus it occasionally happens that there is buried in the tissues a fragment of needle, the entrance of which the patient did not appreciate or has quite forgotten.

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With the increasing use of solutions of iodine for antiseptic purposes some annoyance is encountered by the iodine stains on clothing and skin. These may be promptly and completely removed by moistening the spot with equal parts of a saturated solution of sodium hyposulphite and ammonia water.

Book Reviews

HIERONYMUS FRACASTOR'S SYPHILIS, FROM THE ORIGINAL LATIN.

A translation in prose of Fracastor's immortal poem. Printed on hand-made imported paper; library binding. Crown Octavo. The Philmar Company, Medical Publishers, Fidelity Building, St. Louis, Mo. Price, \$2.00.

This little volume is indeed a pleasure to review for there is nought but praise. The mythological history is quite interesting reading and the medical resources detailed makes us ponder as to our therapeutic advancement. It is a volume which every doctor will appreciate. As a literary production it is most acceptable and the publishers are to be congratulated upon the general excellence of the small volume.

MANUAL OF DISEASES OF THE EYE. Designed For Students and

General Practitioners; By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-1903. Seventh Edition, Revised. Cloth. Price, \$2.00 net. Pages 407, with 362 illustrations. William Wood & Company, New York, 1911.

The seventh edition of this useful and practical manual is welcomed as one of our old friends and perusing its instructive pages is quite pleasant. This book has been revised and numerous paragraphs added on subjects such as Tracheoma Bodies, Lagrange's Operation for Glaucoma, The Use of Salvarsan ("606") in Syphilitic Ocular Affections, Injections of Tuberculin, Krönlein's Operation, etc. The new chapter on "The Ocular Manifestations of General Diseases," which appears in this edition, while necessarily brief, is a most important addition and will be thoroughly appreciated by the general practitioner.

The chapters relative to refraction are well constructed and the practitioner of medicine will welcome this, as the activity of the "doctor of optometry" is becoming markedly hypertrophied. The book is quite up-to-date, and while it is by no means exhaustive, the fact that it is concise will recommend it to many who are seeking general knowledge.

A MANUAL OF MATERIA MEDICA; By E. Quin Thornton, M. D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Octavo. Pages 525. Cloth. Price, \$3.50, net. Lea & Febiger, Philadelphia and New York, 1911.

This is a complete manual of 525 pages, furnishing a reliable guide for the progressive physician. Professor Thornton having taught Materia Medica in the laboratory and lecture room for many years presents a succinct description of this subject and discuss the art of prescribing and of administering drugs in various ways. The subject of Materia Medica is a vexatious one in medical teaching, from the difficulty in deciding how much matter should be included. The discussion of some of the drugs has been curtailed; some excluded altogether. The book is divided, for convenience of teaching and systematic presentation, in three parts.

Part I. of the Manual is devoted to the discussion of Posology, Prescription Writing, Latin Essentials in Prescription Writing, Incompatibility, and Weights and Measures.

Part II is devoted to the discussion of all drugs, chemicals, and preparations official in the United States Pharmacopœia.

Part III. gives a complete list of the United States Pharmacopœial preparations, arranged according to pharmaceutical classes. This part of the book is intended as a guide for students working in the Laboratory of Pharmacy. It is an excellent book and fulfils the purpose for which it was written and may be unhesitatingly recommended.

ACKNOWLEDGMENTS.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF LABORATORY METHODS. For Students, Hospital Physicians and Practitioners; By Charles E. Simon, M. D., Professor of Clinical Pathology and Experimental Medicine in the College of Physicians and Surgeons, Baltimore. Seventh Edition, enlarged and thoroughly revised. Octavo, 780 pages, with 168 engravings and 25 plates. Cloth. Price, \$5.00, net. Lea & Febiger, Philadelphia and New York. 1911.

DISEASES OF THE STOMACH. With special Reference to Treatment; By Charles D. Aaron, Sc. D., M. D., Professor of

Gastroenterology and Adjunct, Professor of Dietetics in the Detroit College of Medicine, Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine, etc. Octavo, 555 pages, with 42 illustrations and 21 plates. Cloth. Price, \$4.75, net. Lea & Febiger, Philadelphia and New York, 1911.

UNITED STATES CIVIL SERVICE COMMISSION. Information relative to Employment in the Philippine Civil Service. Washington, D. C.

REGISTRATION AREA VITAL STATISTICS. DEPARTMENT OF COMMERCE AND LABOR. Bureau of the Census. Washington, D. C. Release date, September 8, 1911.

Miscellany

PRACTICAL GLEANINGS.

It is well known that trauma may determine a virulent osteomyelitis, requiring prompt attention. It is not so well known that it may determine a milder type of bone infection that soon recedes without operation. The former is most often met with in children, the latter in adults.

Malaria may be held accountable for many interesting and grave kidney lesions, which are oftentimes confusing. Pain as severe as renal colic may accompany anuria. This is due to the reduction of blood pressure and plugging of the tubules. In acute kidney attacks inquire closely into the possibility of malarial infection.

Do not overlook the value of a salt free diet in chronic kidney disease.

In the preparation of Salvarsan for intravenous use, do not use a solution made with common salt of undistilled water, but use a specially prepared sterile physiologic salt solution made with chemically pure sodium chloride; otherwise you may find it impossible to obtain a clear solution.

NEWS ITEMS.

A special meeting of the State Board of Health was held at Corbin, Ky., August 9, to discuss the problem of pellagra, more than 100 cases of which have been reported from Bell and Whitney counties in addition to twenty-four cases reported from the Lexington and Hopkinsville State hospitals for the insane. Besides the members of the State Board of Health the conference was participated in by superintendents of asylums for the insane and nearly 100 physicians practicing in the mountain counties where pellagra is present.

Dr. Matthew F. Shields, field representative of the American Red Cross First Aid Department, gave an instructive lecture in the lecture room of the University of Louisville to firemen and policemen, instructing them in first aid principles. How to rescue persons from burning buildings and how to take care of the injured until the arrival of physicians was dealt with at length. This plan has long been considered by the city officials, and it is likely, that the plans, for the first aid to the injured corps, will be placed before the Board of Public Safety.

The inmates and equipment from the old city hospital, Louisville, to the temporary hospital located in the building of the former Kentucky School of Medicine, have been most successfully transferred with the minimum of trouble. The patients suffering from tuberculosis were moved to the Waverly Hills Sanatorium as no provision is to be made in the new city hospital for cases of tuberculosis.

Among the delegates appointed by Gov. Willson to the fourth International Good Roads Congress, to be held in Chicago, September 18 to October 1, 1911, are Dr. Lewis S. McMurtry and Dr. W. O. Roberts, of Louisville; Dr. Frank Boyd, of Paducah.

The American Proctologic Society met in Los Angeles, Cal., June 26 and 27, 1911. The newly elected officers are: President, Dr. John L. Jelks, Memphis, Tenn.; Vice President, Dr. Alfred J. Zobel, San Francisco, Cal.; Secretary-Treasurer, Dr.

Lewis H. Adler, Jr., Philadelphia, Pa.; Executive Council, Dr. George J. Cook, Indianapolis, Ind., Chairman; Dr. John L. Jelks, Memphis, Tenn.; Dr. Dwight H. Murray, Syracuse, N. Y.; Dr. Lewis H. Adler, Philadelphia, Pa. The following were elected Associate Fellows of the Society: Dr. Arthur F. Holding, 98 Chestnut street, Albany, N. Y.; Dr. Ralph W. Jackson, Fall River, Mass.; Dr. E. H. Terrell, 304 East Grace Street, Richmond, Va.

Dr. Morton Smith, President of the Arkansas Medical Society, declares that at least 75 per cent. of the school children in Arkansas are suffering with hookworm.

Dr. E. R. Palmer's newly built bungalow, at Harrod's Creek, was completely destroyed by fire of unknown origin. The doctor was at his office in Louisville at the time of the fire.

Dr. M. L. Ravitch, of Louisville, has returned from Michigan on account of his daughter's illness.

Dr. J. A. Fuxner, of Louisville, has returned after a two weeks' stay in Charlevoix, Mich.

Dr. M. K. Allen, of Louisville, left for Asheville, N. C., for a stay of two weeks.

Dr. Philip F. Barbourn, of Louisville, has returned from a trip to Northern Michigan.

Dr. Sidney J. Meyers, of Louisville, has been elected to the Medical Faculty of the University of Louisville. He will be Professor of Medical Economics and Ethics. Prior to the recent college merger Dr. Meyers occupied the chair of Medicine, for many years, at the Louisville Medical College.

Dr. Raymond E. Grant, of Louisville, has gone to Atlantic City to remain two weeks.

Dr. S. S. Prather, of Louisville, went to Atlantic City for a few weeks' stay.

Dr. Frank Boyd, of Fort Worth, Texas, who has been visiting relatives in Louisville, left for Chicago.

Dr. Frank Simpson, of Louisville, has returned after a brief stay in Detroit.

Dr. Vernon Robbins, of Louisville, left for North Carolina to be gone several weeks.

Dr. George L. Pope, of Louisville, left for Greenville, Miss., and Chicot county, Ark., to visit relatives for four weeks.

Dr. Charles J. Rosenham, of Louisville, has gone to New York to visit his son and will remain two or three weeks.

Dr. J. W. Irwin, of Louisville, left for a six weeks' stay in Europe.

Dr. Frank Keifer, of Louisville, has returned after a two weeks' stay in Petoskey, Mich.

Dr. Ellis Duncan, of Louisville, has gone to join his family at Bay View, Mich.

Dr. Curren Pope, of Louisville, has left for a short stay in Atlantic City and New York.

Dr. Cuthbert Thompson, of Louisville, has returned from a two months' stay in Europe, having spent the greater part of the time in Ireland and Scotland.

Dr. S. M. Steinberg, of Louisville, has returned from a brief visit to Indianapolis.

Dr. Arch Dixon, of Henderson, spent several days in Louisville.

Dr. E. T. Bruce, of Louisville, has returned after a stay of three weeks at Asbury Park and Philadelphia.

Dr. H. Horace Grant, of Louisville, has gone to Quebec to spend several weeks.

Dr. A. J. Steele, of Louisville, has returned from a trip to Niagara Falls and Toronto, Can.

Dr. Thomas K. Van Zandt, of Louisville, has gone to Nashville to visit relatives.

Dr. F. W. Samuel, of Louisville, has gone to Detroit and other Michigan points.

Dr. John J. Moren, of Louisville, has returned after spending several weeks at Vineyard Haven, Mass.

Dr. C. A. Johnsen, of Louisville, has returned from an automobile tour through Kentucky and Southern Indiana.

Dr. Ewing Marshall, of Louisville, has gone to Muskoka Wharf, Canada, for the rest of the summer.

Dr. T. L. McDermott, of Louisville, returned home after spending two weeks at Fish Creek, Wis.

Dr. Frank Collyer, of Louisville, has returned after a month's stay in Atlanta City.

MARRIAGES.

Dr. Lee J. Ernstberger, of Oklahoma City, to Miss La Sitta Smodell, at Vincennes, Ind., August 11.

Dr. A. V. Johnson to Miss Minnie Friedley, both of New Albany, recently.

DEATHS.

Dr. C. H. Brothers, of Paducah, at his home August 3, from tuberculosis complicating nephritis, aged 61.

Dr. Walter W. Lester, of Paintsville, at his home August 7, from typhoid fever, aged 42.

Dr. Frank Pierce Foster, of New York City, at his home August 13, from cancer of the throat, aged 69.

Dr. Louis P. Engleman, of La Fayette, Ind., at his office August 7, found dead.

Dr. R. J. Howard, of Pryorsburg, at his home July 24, aged 60.

Dr. Levi N. Smith, of Clinton, at his home July 1, from typhoid fever, aged 64.

THE American Practitioner and News.

"SEC TENUI PENNÄ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."

—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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Original Articles

TUBERCULOUS DISEASE OF THE KNEE-JOINT.*

JOHN B. RICHARDSON, M. D.,
Louisville, Ky.

In selecting this subject, I have been prompted by several facts which have been brought before me during the last few years. During this time I have been called upon to treat this condition quite often and I must confess that the results obtained after continuous treatment carried out with the intelligent co-operation of the mothers of these children have not been satisfactory to me and has fallen very far short of what our text books would lead us to anticipate. Indeed, the statistics given in these books and gotten from an institution in which I worked, seem much better than were the results seen by me while there. I wish to explain that I believe that these statistics are about as satisfactory as any we have. Here, as elsewhere, we must consider the fact that the human mind is all too prone to be influenced in that direction which may prove to the personal credit of the compiler of those statistics. We honestly give what we believe to be the true results, but these same, when reviewed by another individual,

*Read before the Society of Physicians and Surgeons, Sept. 21, 1911.

present different aspects. I make this degression for the reason that the treatment directed to my cases was the same used for years by others who report much better results than I have seen.

Another fact and the one which appeals to me as being the real reason for cures and good results being as rare as they are in the cases I see, is that the diagnosis is not made early. I hasten to say that I believe that an early diagnosis is not only in some cases hard to make, but when once made the parents of these children do not appreciate the seriousness of the condition and surgeons do not get to apply treatment as early as they otherwise would.

If then, this evening, we can attempt to repeat methods for diagnosis which may lead to the early application of treatment, we will go far toward improving results. In the discussion I hope some points which I may overlook, or be unaware of, may be brought forward.

Tuberculosis of the Knee-joint may begin either in the femur, tibia, or patella, or may be primarily synovial.

In a series of 541 cases (1), 51.4 per cent were believed to be osteal and 48.6 per cent synovial, these cases were taken from Koenig's clinic and differ markedly from conclusions of Nichols (2) who doubts if any are primarily synovial after a study of one hundred and twenty cases. Involvement of the synovial membrane may follow closely upon the bone lesion due to the direct extension of the disease or to hyperemia caused by the close situation of the pathology.

Tuberculous involvement of the joint occurs usually in childhood, but is frequently seen in adolescence and adult life. Sex exerts no influence and the right and left knee seem to be equally effected.

The symptoms of this disease are much the same as found in tuberculosis of other joints. Being superficial, change in the contour of the joint, is noted earlier as slight effusion into or thickening about the joint is seen more readily.

Limitation of motion is the all important symptom. Unfortunately most of these cases have progressed before we see them and a history of limp and pain, chronic in character is given. When seen in children this history of a chronic, painful knee-joint is all that is needed for a diagnosis.

Limitation of motion in the direction of complete extension is present early and is the cause for another very important

symptom, viz, deformity. This is present as a rule, unless seen very early. Slight flexion will be found to exist. In this position the joint surfaces are separated slightly and here we find nature in its effort to effect a cure. In this position of the knee pressure is not brought to bear so completely on the joint surface. This flexion naturally causes a limp, which will be present in early cases.

Effusion into the joint causes a change in the external appearance of the knee; thickening of the capsule and tissues about the knee will also produce an altered surface. Comparison with the normal knee will show this. Increased heat on the effected side will now be seen. The knee does not present the appearance it would if caused by an acute infection, but will soon be white in color, hence the term "White Swelling."

Measurement will give increased size about the diseased joint. Atrophy of thigh and leg is present and a comparison of measurements with the sound side will show this much sooner than simple inspection. Some have claimed that early in the disease X-ray will give an altered appearance within the joint. I have been only slightly impressed with the X-ray as a means of early diagnosis, preferring to depend on other points.

To these symptoms, then, we must look for an early diagnosis. Some will be present in other conditions. Later we will take the more common and try and eliminate them.

As the pathology has progressed the above signs will increase. Rigidity will be marked, both in the direction of flexion and extension. Deformity may increase until the limit of flexion is reached. Outward rotation of the tibia or the femur will be seen. Backward displacement of tibia or femur may be present. Knock-knee and infrequently genu varum will be found. Abscess formation follows, these later find exit from within the joint, come to surface and rupture. Sinuses result. They are persistent when once formed.

Due to irritation, actual lengthening of the diseased side may result. After cure growth is retarded and shortening is found.

In adults the symptoms may be very slight. Some pain, very slight limp and practically no limitation of motion may be seen for months, or even years, before any great disability follows.

Differential diagnosis at times may be most difficult.

INJURIES TO THE KNEE may be mistaken for the disease under discussion. The onset is more rapid. Pain and rig-

idity are present. If effusion into the joint is marked, the patella may be pushed against the femur and its impact felt. On releasing it, the patella floats up again. In tuberculous disease, the patella is fixed. No fluctuation is present and a doughy feeling be experienced. It must be remembered that in tuberculosis there may be a history of injury. These injuries clear up rapidly when proper treatment is directed toward them.

CHRONIC SYNOVITIS is tuberculous in origin.

ACUTE ARTICULAR RHEUMATISM can scarcely be confounded with this disease. More acute in onset, constitutional symptoms present.

GONORRHEAL ARTHRITIS: Acute in onset, evidence of acute inflammation about joint, high temperature and presence of gonorrhea elsewhere, serve to make plain the diagnosis.

OSTEO-ARTHRITIS occurs usually in adults. Crepitation is rough; several joints are usually involved. It resembles tuberculous disease of the knee in the character and location of the pain, the swelling of the joint and limitation of motion.

HEMOPHILIA: Usually follows injury in person (usually males) known to be bleeders. Later when the clot is being absorbed, the chronic course of the disease may be confusing.

SARCOMA of the femur or tibia may be the cause of incorrect diagnosis. Tuberculosis may be cured, Sarcoma can not. Tumor is usually more localized and not so regular in outline.

In the treatment it is known that the earlier it is applied the better results we are going to have. The question at once presents, what are we to do in those cases where we are unable to arrive at a satisfactory diagnosis? It is wise to treat these cases as if they were tuberculous until such a time arrives, when by the improved or complete cessation of symptoms, we are sure that we are dealing with one of the less serious affections of the knee.

It is interesting to note in a paper by Gibney (3) written twenty-two years ago, these remarks: "If any of my hearers believe that prolonged immobilization is harmful and productive of ankylosis, I will say the testimony is inconclusive and that so far as my own experience goes, the real function of the joint can be better preserved by absolute immobilization than by any attempts at passive motion." It is now known that this statement is quite true and prolonged fixation of a joint plays no part in its later ankylosis.

For this reason we will do no harm, if at times, we keep a joint fixed immobile for several weeks, or even months, as the case may be, until we can safely say the condition is not tuberculous.

Plaster of Paris bandages, close fitting, is the method best suited to the largest number of early cases. Again let me insist against the use of absorbant cotton as a protective when plaster is used. If any padding of bony points is needed use cotton batting. Apply a close fitting flannel bandage, extending from the upper thigh and including the foot. Later, if desired, the foot need not be included. Cover this with a thin plaster bandage. Do not have it too heavy, as we wish these children to get about as much as they can. The plaster should be changed as often as necessary. If any deformity existed, change the dressing at the end of a week, at which time the muscular spasm will be lessened. The leg can then be brought more nearly into a straight line. It may be necessary to use an anesthetic in badly deformed cases. Forcible stretching may be all that is necessary or tenotomy of the ham-strings may be required to reduce the flexion.

Flexion may be reduced by weight and pulley, with the patient in bed. Gradual increase in weight will eventually put the limb in such condition that the plaster may be applied.

Later the Thomas knee brace may be used to continue the treatment. Some use the brace from the beginning of treatment, but the plaster dressing is to be preferred.

No matter the method adopted, first gain the confidence of your patient; try to retain it. Later you will likely give these children much pain in stretchings, in your attempt to correct deformity and often it is hard to hold their confidence. Explain to the parents the long duration of time necessary to effect a cure—from two to five years. Try to get their co-operation, as this will mean much to you in the result obtained.

In spite of perfectly applied treatment, even in early cases, abscess formation will result. When abscesses are discovered, they should be aspirated, if possible. Most frequent the pus is too thick to pass through even the largest needle. Small incisions should be made, when this is the case. Contents should be evacuated and one or two stitches taken to close the wound. This procedure may have to be repeated. Iodoform Emulsion has been used in these abscesses, but not enough good results are seen to justify its use. Every care should be practiced to prevent

mixed infection, and iodoform only adds to the chance of causing it. In spite of the best technic, infection does occur and sinuses follow with long continued discharge.

Bier's hyperemia has been used with good results, both in the treatment of the abscess and sinus. It should be gradually increased, as regards length of time of application, until passive congestion is present almost all of the twenty-four hours.

Bismuth paste should be tried in the treatment of these sinuses. I have had no personal experience with it about the knee, but in other places it has given good results.

For the more unusual deformities, special correction is necessary. For the backward dislocation of tibia on femur, the patient should be anesthetized and placed on the abdomen and chest. In this position, which is advised by Whitman, there is no danger of increasing the deformity, as there is if correction is attempted while the patient is upon its back. Do not cause too much tension on the popliteal vessels in the reduction. Rather make two procedures of the operation.

At times, when the whole joint is involved in abscess formation, an arthrectomy may be done.

Amputation, at times, is advised only when all other efforts for a cure have been tried. Prolonged suppuration and evidence of amyloid degeneration of the internal organs is the indication for it. Amputation is to be resorted to only as a life saving means.

In adults the question of time required to effect a result is of importance. Fixation for from two to five years is usually too long to consider in adult cases. Excellent results are obtained by excision. Removal of all the diseased area should be accomplished. Some failures follow upon this operation and later amputation may be required. Never attempt an excision in children, as growth is not complete. Marked deformities and shortening follows.

In conclusion, I think what we are most to hope for, is to be able to apply our treatment early. The fifty per cent cures, as reported by our text books, seems too high to me. In my cases certainly I have not seen this result. If taken very early, we may look for this percentage of cures, I take it, otherwise I do not think we can. Conservatism here, as in all orthoepedic condi-

tions, should hold. Never let the desire to operate interfere with this.

411 Masonic Building.

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HISTORY OF THE TUBERCULOSIS MOVEMENT IN LOUISVILLE, JEFFERSON COUNTY, KY.*

DUNNING S. WILSON, M. D.,
Louisville, Ky.

In writing this statement relative to such a large and intricate subject we will find the same errors that creep into the history of other movements, where the several writers give their own knowledge, must necessarily be somewhat limited. For that reason many details will perforce be omitted. The writer hopes however, that these articles will be supplemented by others which will eventually form a whole, correct in each particular.

It will be impossible to refrain entirely from striking a personal note but every effort will be made to give credit where credit is due, and to be as impersonal as possible.

In May, 1904, there appeared in the Louisville Times, under the signature of the writer, a two-column article, in which a plea was made for the establishment of Tuberculosis Associations or Leagues and for establishing sanatoria and hospitals for the treatment of persons suffering from tuberculosis.

Prior to the writing of that article, and ever since, the writer has endeavored in every way to interest persons in the movement. Shortly after the publication of the article in The Times, there was considerable correspondence with the Phipps Institute in Philadelphia, with Dr. M. P. Ravenel, now President of the National Association for the Study and Prevention of Tuberculosis and later, at his suggestion, with Dr. Livingston Farrand, Executive Secretary of the National Association, and through their coöperation, information as to the cost of sanatoria, hospitals and dispensaries, plans for organizing associations and other data was obtained which put us in possession of invaluable information. The writer endeavored to interest a number of

*Written for this Journal.

physicians, but was only markedly successful in interesting and enlisting the hearty coöperation of Dr. J. A. Flexner, and after talking over the situation we called into consultation Miss Tarrant, now Mrs. John Little, who was then in charge of the Neighborhood House, and together we went over the names of persons who might be appealed to for aid in organizing a tuberculosis association. The list of these persons interested in benevolent and charitable work was gone over carefully and it was arranged that we would each take a certain number of them and ask them to meet some evening at the Neighborhood House for the purpose of discussing the advisability of organization.

The meeting was finally arranged, at which the Honorable Robert Worth Bingham presided, and the correspondence from the National Association and Dr. Ravenal was laid before this meeting, and after considerable discussion Mr. Bingham was authorized to prepare articles of incorporation for the organization of the KENTUCKY ANTI-TUBERCULOSIS ASSOCIATION (now known as the Louisville Anti-Tuberculosis Association). This was done, and the following names were signed as the original incorporators:

Dr. J. A. Flexner,
Dr. D. S. Wilson,
Mrs. Edwin H. Wehle,
Wm. H. Ramsey,
Miss Eleanor Tarrant,
Mrs. Chas. P. Weaver,
John A. Stratton,
Miss Lucy Belknap,
Rev. E. L. Powell,
Mrs. Anna Halleck,
R. W. Bingham,
Geo. L. Schon.

In the meantime the writer, with the aid of his brother-in-law, Mr. Otto Busch, of St. Louis, who was visiting him, and the coöperation of Dr. M. K. Allen, the health officer, the names and addresses of all persons dying of tuberculosis within the period covered by the previous two years, was obtained and a map of Louisville was secured and each one of the deaths were recorded on that map in their proper locations, by making a small black ink dot approximately at the number and street given. This map was shown at an open meeting of the Commercial Club,

held March 28th, 1905, where Mr. Bingham and the writer addressed the Club on the necessity of doing something with reference to taking care of the situation, in so far as its prevention and cure might be effected in Louisville. The Commercial Club from that time on has always, in every way possible coöperated with and supported every movement looking to solving the problems made necessary by the prevalence of tuberculosis.

After the incorporation of the Kentucky Anti-Tuberculosis Association, Mr. W. C. Nones, suggested by Dr. J. A. Flexner and concurred in by the other incorporators, was asked to take the Presidency and readily consented, the association forming a permanent organization on June 8, 1905, the following officers being elected:

President, W. C. Nones.

Vice-President, Rev. Wm. H. Ramsey.

Treasurer, Theodore Harris.

Secretary, George L. Schon.

The following chairmen of committees were named:

Mr. C. L. Adler, Ways and Means.

Mr. Robt. E. Hughes, Publicity.

Mr. Robt. W. Bingham, Legislative.

Dr. Dunning S. Wilson, Inspection and Conference.

Dr. J. A. Flexner, Medical.

Mr. Robt. E. Hughes never qualified, and Mr. A. T. Macdonald, the managing editor of the Louisville Herald, was appointed to succeed Mr. Hughes. Mr. Macdonald has ever since been identified with the movement.

On September 5th, 1905, the President suggested the advisability of establishing a sanatorium for the treatment of tuberculosis.

BOARD OF TUBERCULOSIS HOSPITAL.

At a meeting of the Legislature in 1906, through the influence of the Louisville Anti-Tuberculosis Association, an act was passed for the establishing of a Board of Tuberculosis Hospital, the funds to be derived from the city and county tax levies. This act was only applicable to cities of the first class. Mayor Paul C. Barth appointed the following members on the Board: Messrs. Temple Bodley, afterwards elected President, Mr. Chas. H. Bohmer, Doctors T. H. Baker, Geo. Coon, E. Y. Johnson, Sidney Meyers, Mr. H. C. Rieger, Mr. Bernard Flexner, Wallace T. Hughes, Louis J. Dittmar, and their first meeting was held Fri-

day, January 4th, 1907, at 3 P. M., in the office of the Mayor. This Board afterwards purchased the old Hays home at Waverley Hill on the Eighteenth Street Road, and the Waverley Hill Sanatorium was opened July 26th, 1910, with a capacity of forty patients (now grown to a capacity of eighty-eight patients).

ASSOCIATION SANATORIUM.

The Kentucky Anti-Tuberculosis Association, though it took up the matter of establishing a sanatorium or hospital in October of 1905, did not complete its plans until some time later, and after many obstacles had been overcome the incorporators and the members of the association met at 12 o'clock on March 18th, 1907, at which Mr. John Marshall was elected President, and the following trustees were duly elected:

Messrs. B. Bernheim, B. Flexner, Dr. S. A. Hartwell, Theodore Harris, John Marshall, C. L. Adler, John L. Wheat, W. C. Nones, August Ropke.

On September 9th, 1907, the sanatorium at Hazelwood was formally opened for the admission of patients, with a capacity of ten beds, (now grown to a capacity of forty-five beds), with Dr. G. W. F. Rembert, physician-in-charge.

Arrangements were made by the Kentucky Anti-Tuberculosis Association to have Dr. S. A. Knopf come to this city and deliver a lecture in the interest of the anti-tuberculosis movement, and on December 11th, 1905, Dr. Knopf delivered a masterly address in the Warren Memorial Church, which was well attended and which created great interest in the subject.

At this point the writer wishes to give particular credit to the newspapers of the city for the wide publicity which they have, from the very inception of the work, given the tuberculosis movement, and this has continued unabated up to the present time.

Dr. Knopf left Louisville for Lexington where he delivered an address before the people of Lexington, the writer being asked to accompany him in order to give the people of Lexington an idea of what was being attempted on the part of the Louisville organization. The people of Lexington were much interested in Dr. Knopf's lecture and the organization was consummated in Lexington at this time.

As it was a matter of some correspondence, the writer can not refrain from saying that at this meeting he stated his opposition to the erection of a State Sanatorium for tuberculosis patients, believing that this would require a very large appro-

priation from the State to properly care for the people who would apply for admission and that aside from its becoming a cat's paw for political manoeuvring, it would produce a feeling of apathy on the part of the people as a whole, throughout the State, towards the work in their several communities. He urged, however, that the State appropriate a sufficient sum to subsidize and to encourage the establishment of sanatoria in the counties or districts of the state which would be object lessons to the persons residing within boundaries of said counties or districts, and by making a certain tax upon the revenues of the immediate communities would enlist their active interest in seeing that the work was properly conducted.

Though the legislature of the State passed a bill for the establishing of the said State Sanatorium it was vetoed by the Governor. At the National Association meeting this year in Denver, the erection of state sanatoria was considered, after several years' trial, not to be the best plan and the ideas advanced in Lexington by the writer are now considered to be the best solution of the problem as we now see it. To place upon the community the responsibility of caring for its own tuberculosis cases, and with the aid of a state appropriation to help provide for them, greater interest will be aroused and a more watchful care of the institution so established be maintained by the people.

A State sanatorium with 1,500 beds would not begin to care for the number of tuberculosis cases in the State, and they can not be cared for in a very large institution as thoroughly as in the smaller ones. They are more or less distant from the homes of patients and the visits to the sanatoria, on the part of those who should learn about the care of and guard the interest of the work, is obviously much less than where smaller institutions are maintained and approved in smaller communities within easy access, and where the people residing nearby can constantly know of the work that is being done.

(To be continued.)

RHEUMATISM.*

EDWARD B. RICHEY, M. D.,
Louisville, Ky.

Rheumatism and all of its complications is of interest not only to the general practitioner but to every specialist, because in every phase of the practice of medicine the effects of this painful disease are manifest.

What ever disease in its action upon the human body is likely to leave an impairment, either temporary or permanent, of a vital organ such as the heart or the circulatory system, that disease in all its phases becomes of vital interest to every one who stands as man's emancipator from pain and disease.

Rheumatism is generally conceded to be an infectious disease, caused by unknown infectious agents, manifested by high fever, inflammation of the joints, profuse sweating, and a tendency to attack the endocardium or other fibrous structures.

The specific cause of the disease has not as yet been identified, but I am of the opinion that the old idea, that this very painful and intractable disease is due to an excess of lactic acid in the system, should no longer be entertained; and I believe few, if any, in a position to form authoritative opinions hold uric acid to be the causative factor. The concensus of opinion now is, that the disease is of an infectious origin, but heretofore it has been unsettled as to whether one or more germs are responsible. That the disease is infectious can scarcely be doubted, since it had occurred in epidemics and more than one case frequently occurs in the same house, simultaneously or in close succession. A severe epidemic is apt to be followed by mild outbreaks, and the seasonal variations are quite constant.

I am convinced that the etiological factor in this disease is of bacterial origin, for the following specific reasons:

(1) The presence of lactic and uric acid in the blood may be produced by the action of the causative micro-organisms.

(2) We know that bacterial infection takes place in the injured parts of the body more readily and with greater severity than in uninjured parts. Rheumatism is always more severe in parts that have been injured and it is noticed in these parts first.

(3) Rheumatism almost always causes an endocarditis and

*Read before the Louisville Society of Medicine, September 17, 1911.

later frequently mitral regurgitation or at least mitral stenosis occurs. This is the natural process of bacterial infection of the mitral valve from the blood current, which in healing of the valve causes contraction of the valve proper or of the cordi-tendinea and thus produces either mitral regurgitation from the failure to close the opening or stenosis from the contraction of the cordi-tendinea.

(4) The effect that this disease has upon the blood current is similar to the effect in Pneumonia, the cause of which is known to be bacterial.

- a. The red blood corpuscles are reduced in numbers.
- b. The blood plates are very much increased.
- c. The quality of fibrin is double while the coagulability is decreased.

Among the factors favorable to rheumatic infection are injury, anemia, alcoholism, gastric acidity, but more than these I think occupation, social position, and climacteric conditions which prevail, are factors to be considered as favoring the infection.

If I were to classify the disease judging from the character of the fever, the mode of involvement of the joints, the tendency to relapse, the sweats, the anemias, the leucocystosis, and, above all the great liability to endocarditis and involvement of the serous membranes I would classify it as I would a pyemia and hence an "acute infection."

The bacteriology of the disease is still under discussion. It is the conclusion of some that the germ or germs which are causative agents are of the class known as the cocci. The preponderance of evidence seems to point to the streptococcus-like organisms.

Wasserman, Malkoff and Westphal have described a streptococcus as the cause. In 1901 Meyer isolated a streptococcus similar to the above mentioned. Menzer and Allaria also obtained similar findings from tonsils of patients suffering from the disease. Although the view of Singer and Menzer that "acute rheumatism" is simply one of the many manifestations of streptococcus invasion, I am convinced that inasmuch as streptococci cannot always be cultivated from the lesions of rheumatic fever that the causative factor must be a mixed infection.

Menzer, acting upon the streptococci theory, treated 25 acute and a larger number of chronic cases with anti-streptococcic serum with great success. (Journal A. M. A.)

Chipman employed an anti-streptococcic serum in a seemingly

hopeless case of acute articular rheumatism with a pyemic temperature resulting in rapid local and general improvement. (Med. Record.)

Sherman (J. of Mich. State Med. Society) in a paper entitled "Conclusions Drawn from Three Years' Experience in the Serum Treatment of Acute Articular Rheumatism," reports twenty-four cases in which he obtained gratifying results.

In only two of these cases did he notice any cardiac complications, whereas with the conventional non serum treatment at least one-third would, according to statistics, be expected to develop some cardiac involvement. The author says in all the cases the rheumatic process was decidedly cut short and rapid improvement followed.

I have had no experience in my private practice with the use of the anti-streptococcic *serum* but I have been convinced from the following observations that the nature of the disease was infectious and that its cause was a mixed infection probably of streptococcus and the staphylococcus.

I have treated 15 cases of acute and chronic Pharyngitis and Tonsillitis in which the streptococcus and staphylococcus were found in the secretions. In all of these cases there was a history of tonsillar infection at some previous period and in ten of these cases a decided history of slight attacks of acute rheumatism. In these ten cases the streptococcic and staphylococcic vaccine were both used with ultimate recovery from all symptoms. In the other five cases, only the mixed staphylococci vaccine was used with ultimate recovery from all symptoms, save in one case, and in this particular case the vitality was at such a low ebb when the vaccine was administered that the patient was unable to rally from the depressing effects of the vaccine and its further administration was abandoned until her general condition was improved.

I am aware that these few cases in my limited experience do not substantiate the claim that I am making that the usual cause of rheumatism is a mixed infection, but perhaps they may have their part along with the many experiences of my colleagues, both reported and not reported, in giving to us incentive to prove further this claim by the use of the serum-therapy and vaccino-therapy when we have appropriate cases.

I am presenting the following cases because of their individual interest in that they present to me at least some rather rare com-

plications or some rather unusual features.

I did not use the vaccine in three of these cases, for which I have no excuse to offer save that circumstances prevented or made administration unadvised.

Case 1. Miss W., young woman 18 years of age, family history negative, personal history negative, save for children's diseases until the time of the attack and occasional aching of the knees. When called I found her in bed with cold sweat standing out on her whole body, feet and hands were as cold as ice, lips were blue, face very pale, she was gasping for breath. Pulse was 130. Upon examining the heart I found every symptom of mitral regurgitation in a very pronounced form. At this time the knees were both swollen but not extensively and the patient complained of pain around the heart. About once or twice daily for the first three days the patient would have a sinking spell in which the symptoms would be similar to those which presented when I first saw her.

The point of particular interest in this case to us was the unusual, early, and severe cardiac involvement.

Treatment in brief was as follows: Rest in bed, digitalis, sodium salicylate, potassium-iodide, saline laxative, iron, arsenic, and strychnia. Recovery sufficient for her to leave the city was accomplished in three weeks' time; have not seen her since.

Case 2. Complicated by Parotiditis. Mrs. S., age 49 years, white. Family history negative. Personal history: Had suffered several years from gall-stone colic which was relieved entirely by medical treatment. She was operated upon in 1907, to correct retroversion and to repair lacerated perineum. Symptoms presenting in first day were as follows: The patient was shaking with a chill, within an hour the temperature went up to 105° F. The tonsils were enlarged, sore throat, and gastric disturbances were prominent symptoms. Five days later the joints began swelling and aching. The knees, feet, hands and elbows were involved. Profuse acid sweat was a symptom after the fifth day. On the tenth day the parotid gland on the left side began to swell and continued thus for 48 hours, during which time it was very painful. During this time the swelling and aching in the limbs subsided somewhat but returned when the parotid gland became normal.

Treatment: Salicylates, iodides, saline laxatives, vapor baths daily, hot and cold packs, hot kerosene packs.

The patient reported on July 10th, as being free from pain and swelling of joints and in very fair condition otherwise.

Case No. 3. Miss H., age 9 years, white. Family history: Father and mother living and in good health; no brothers and sisters. Personal history: Had measles four weeks previous to attack, otherwise had the best of health.

Patient was brought to my office on June 6th, complaining of stiffness of the joints and with a painful erythema upon the calves of the legs and especially upon the anterior portion of the leg directly over the tibia. Erythematous patches as large as a man's palm almost covered the entire surface from the knee to the ankle and in these erythematous patches the skin was thickened and seemed to cling to the fascia and muscles as if they were a part of them.

The little patient had a temperature of 104.2-5°. The tongue was coated with a grayish white thick coat, she was constipated and peevish and had no appetite. The pulse was 120.

We sent her home and put her to bed at once. The next day her forearms became erythematous but not so extensively involved as were the lower limbs. The diagnosis was Erythema Nodosum complicating acute arthritis.

I placed her on 3 grain doses of quinine every four hours, together with strontium salicylate and salol. I used as intestinal laxative antiseptic phenolphthalein and caroid. Rest in bed, liquid diet and the above medicaments seemed to be effective and upon the ninth day she was dismissed.

Case No. 4. Mr. G., age 38, a Scotch adventurer. Family history negative. Personal history: Had been ill several times with Tropical fever in Central America and Africa, otherwise healthy. He came to my office presenting a gonorrhoeal infection April 15th, 1910. He was given the ordinary treatment and soon the discharge ceased and at the end of three or four weeks' treatment he said he did not think it worth while to continue treatment any longer as he thought he was well. Against my advice he remained away without treatment until July 16th, 1910, when he called me at 5 A. M. When I saw him his right hand was being held tight in the left and he was suffering intense pain. The palmar surface of the hand to the wrist joint, presented extensive hydrarthrosis and over the last joint of the middle finger was a mottled purplish bleb extending the length of the joint on the dorsal side of the finger. I thought little of this at

first but upon examining further I found his great toe upon the right foot similarly involved and also his thigh upon the anterior portion midway between the hip and the knee joint. The urine was black. The patient jaundiced and vomiting of greenish black material was occurring every few minutes.

All four fingers were edematous and could not be used voluntarily nor by external force without producing great suffering. The inflammation extended up the sheath of the flexor tendons almost to the elbow joint. The perspiration stained the clothing red. The urine showed hemoglobinuria.

There are three theories about the black urine. The first is the malarial theory. The second, the quinine theory by Kock. The third, the specific theory of Sambon. That of Sambon is, perhaps, the most plausible.

The diagnosis in this case was "Gonorrheal Rheumatism," complicated by "Black Water Fever." Black Water Fever was known in the time of Hippocrates, twenty centuries ago, but there are a few if any cases in which it complicates Gonorrhoeal Arthritis.

During the first week the hydrarthrosis passed into both feet and the tenonitis extended into the flexor tendons of the lower limbs. The treatment consisted of rest in bed, liquid diet, Gonococcic Vaccine manufactured by P. D. & Co., intestinal antiseptics, hot fomentations to joints at first to relieve pains. Later patient placed upon a tonic of Tr. Chloride of iron and arsenic.

The case was dismissed as well August 31, 1910.

I am convinced that at least in most of the cases of acute tonsillitis and pharyngitis we have the same etiological factors to deal with that we do in acute rheumatism.

I am further convinced that vaccinothrapy is the treatment par excellence in selected cases of acute and chronic rheumatism. I reach this conclusion from the fact that gonococcic vaccine is efficient in gonorrheal arthritis that streptococcic and staphylococcus vaccine has proven efficient in fourteen cases of rheumatoid conditions in my private experience and from the further fact that the above mentioned bacteriologists have succeeded with the use of streptococcic serum in getting good results.

I am optimistic enough to believe that in vaccinothrapy and in serumthrapy either by the use of stock vaccine and serum or the autogenous product that we will ultimately solve the otherwise unsolvable problem of the successful treatment of rheumatism and rheumatoid conditions.

Selected Articles

DILATION OF THE HEART IN THE ACUTE FEVERS.

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Dilation of the heart occurs with enough frequency in the acute fevers to render it, merely as a complication, deserving of the most thorough attention. It is not only of immediate crucial importance, but also, because of the grave conditions which follow, it becomes a factor of grave significance in, and even long after convalescence.

The frequency with which permanent disease of the heart muscle follows the acute fevers is universally recognized and, although this is an axiomatic fact which has been admitted from the early days of medical study, yet when we come to inquire as to the causes and the pathological anatomy back of the condition I find a considerable lack of accurate knowledge even among well informed physicians. It is only by a thorough comprehension of the cause of any disease and of the conditions and manner under which it occurs that we are enabled with certainty to guard against it or properly and intelligently to treat it when it does appear.

Cardiac failure is common in acute rheumatic fever, in lobar pneumonia, septichæmia, scarlatina, influenza, and especially in diphtheria. It is notably frequent in two definite groups of cases; first, those characterized by high and persistent fever and, second, those in which toxæmia is pronounced. These two characteristics are often merged in single cases. Closely allied, and usually associated in the instances of high fever, is rapid action of the heart. That this may be a factor in the induction of acute dilatation and not solely a symptom of it, is indicated, for example, by the great frequency with which acute dilatation of the heart occurs in Basedow's disease when associated with fever. It is also attested by the well recognized fact that persons naturally showing tachycardia become bad subjects in the acute fevers.

PATHOLOGICAL ANATOMY: In 1907 I made an anatomical and statistical study of 330 cases of myocardial disease, including ninety-six instances of acute degeneration of the heart muscle, such as occurs in the acute fevers. Both before and especially since this study I have closely observed the condition clinically in many instances and have also, when possible, studied the same

cases post mortem so that the subject has now become very familiar to me.

The lesion concerned is primarily an albuminous or parenchymatous degeneration of the heart muscle fibres as a result of which the elasticity, resistance, and contractile power of the muscle become diminished. The precise change appears to be a degenerative alteration of the cell albumins exactly comparable to the degeneration occurring under like circumstances in the parenchymatous cells of the kidney or liver. An exception in this detail must, however, be made in regard to diphtheria, where the cells undergo an acute type of associated fatty change. Albuminous degeneration of the heart muscle is entirely an acute condition; it does not become chronic, though in long standing cases it becomes transformed into a type of fatty degeneration. Brown atrophy or fibrous replacement of the diseased muscle cells may take place. Thus, though this degeneration is never seen in a chronic form, chronic effects are very frequently produced as a sequence.

Grossly, the heart muscle is lighter in color, the outer surface is turbid and abnormally moist, and the consistence or resistance is much diminished as indicated physiologically by its decreased contractile power. Microscopically the muscle cells are swollen, the protoplasm is turbid, and the striation more or less obscured by the presence in the cytoplasm of numerous minute albuminoid granules which have apparently been formed by a degenerative transformation of the cell albumins and not by the deposition of a foreign proteid. In several types the nucleus, as well as the cytoplasm, becomes similarly involved, resulting in a hopeless condition insofar as restitution or cell regeneration is concerned.

My studies have convinced me that a greater or less degree of this change is present in the heart muscle in practically every case of acute fever just as we find the analagous change almost constant in the kidney. The condition must, therefore, be automatically recoverable in by far the larger number of instances and those cases in which the changes pass on to the point of causing acute dilatation or transformation into the chronic forms of myocardial disease are then relatively and fortunately infrequent. Undoubtedly, except when nuclear involvement or actual cell destruction takes place or if acute dilatation occur, complete restitution of the diseased cells is not only possible, but is the rule. Dilatation merely follows as a result of this change in the muscle,

the resistance and contractile power of which has been lessened by the degeneration. As a rule the right side of the heart suffers first, or more markedly, a fact which may be demonstrated, usually from the character of the first symptoms. This is probably because the muscle wall on this side is thinner, and, when weakened by degeneration, is proportionately less able to withstand pressure. This is notably the fact when an adventitious condition in the lung, such as fibrosis, pneumonia, emphysema, or bronchitis tends to procure increased resistance in the pulmonary circulation.

SYMPTOMS: MacKenzie, in his recent epoch marking work in the diseases of the heart, calls special attention to this condition, treating with special care the discussion of the symptoms of defective heart action in the acute fevers. Although his pathological conception is entirely wrong, inasmuch as he considers the lesion an inflammatory one, his presentation of the symptoms and discussion of the course are correct and most instructive.

Probably the most striking and significant sign of a diseased myocardium with impending dilatation is rapidity of heart action. In valuing this symptom, however, one must bear in mind the normal rate of that individual and the natural acceleration which occurs with fever. Unless, when compared with the temperature, the pulse rate is proportionately rapid, a merely quick pulse is of no significance. If, however, associated with rapid pulse irregularities appear, especially irregularities in tension, though those in time may also be suggestive, if they have not previously existed, diagnosis may be considered as nearly certain.

MacKenzie apparently believes this preliminary irregularities of action is caused by interference in the conductivity of the auriculoventricular bundle. Although this may occasionally be the case, and I have observed instances which I believe to have been of this nature, it appears to me unnecessary to assume so distinctive a lesion for the irregularity in time and in tone which may be quite sufficiently explained by the local disease of the fibres making up the contracting wall, exactly as in voluntary striped muscle, where contractility, physiological irritability, and quickness of response all become deranged by degenerated fibres. When, however, the administration of digitalis in such instances, and from a clinical standpoint I believe that this is blameworthy, produces, as MacKenzie states, a mild form of heart block, his point seems to be proved. Quite recently I have had two cases of this kind.

Auscultation of the heart shows many indicative signs of importance, although I believe that the experienced clinician can make out most of these changes by careful study of the pulse, either with the palpating finger alone or by the assistance of the sphygmograph. When the heart muscle is seriously affected by albuminous degeneration, the rate, as indicated by the pulse, is irregular both in tension and in time, usually arrhythmically so, though sometimes rhythmically as in dropping every fourth beat and so on; several incomplete and weak contractions are apt to be followed by a strong one, by means of which the dilated and flagging heart muscle rids the cavities of the accumulated blood which the previous insufficient contractions have allowed to remain in its chambers. Both sounds are irregular in tone, though from time to time sharp valve closures may be heard while the muscle tone is constantly weak. Most contractions are feeble and irregular; systolic murmurs appear, notable at the tricuspid and mitral areas. These murmurs may be in part distinguished from those of a beginning endocarditis by the fact that the myocardial murmur is not transmitted any considerable distance and also by the fact that the quality or tone of the muscular insufficient murmurs differs more from minute to minute.

Variations in size of the heart are perfectly demonstrable in many cases, either by ordinary percussion or, better in my experience, by auscultatory percussion. After convalescence from acute fever the diagnosis may be confirmed by the orthodiascope, if it be available.

A falling blood pressure may be present in a considerable percentage of cases and if this occurs, in spite of rapid heart action, it becomes a sign of great diagnostic and serious prognostic value. In many cases, however, the blood pressure is maintained at, or even above, normal right up to the time of dilatation.

As a rule, actual symptoms of dilatation do not appear until some time after the indications of an insufficient myocardium, as evidenced by rapid and irregular pulse and lack of arterial tone. The appearance of dilatation is, however, not infrequently sudden, and the cyanosis, dyspnoea, with soft running pulse and fluttering heart action, capillary and venous stasis, and close impending death may all develop within a few moments, almost without warning, particularly in rheumatic fever and in diphtheria.

TREATMENT resolves itself for discussion under two heads—

the preventive treatment and the management of the condition after it has developed.

For a proper understanding of what we wish to accomplish it is perhaps well to refer again to the pathogenesis; the condition is caused by one or all of three factors, the dominant and most frequent one, toxæmia, the second muscular fatigue from overaction, and the third, the direct effect on the heart muscle of the high temperature sometimes present.

The toxæmia is best combated by elimination. Chiari has recently called anew our attention to the importance of clearing the bowel in all toxæmias and this appears to be especially important in these cases of acute fever. To active catharsis, preferably with the saline purgatives, should be added diuresis, induced by the administration of water, which also favors diaphoresis and possibly excretion by the respiration as well. A diet must be selected as free as possible from materials apt to undergo fermentation within the gastrointestinal tract and, at the same time, capable of giving to the body a quick and easily absorbed nourishment. Other conditions not contraindicating, I strongly favor alcohol given strictly as a food, well diluted, in small quantities, and at rather frequent intervals. The meat extractives, vegetable soups and broths are also to be given and various forms of milk. Diet is largely determined by the primary fever, though too much fluid must not be administered in any condition where the heart is laboring hard to maintain a full circulation. Indeed, in many instances, early venesection is highly commendable.

When the disease admits of a specific, as diphtheria, the earlier it is given the better, as far as the protection of the heart muscle is concerned. Unfortunately this is possible in as yet only a very limited series of cases. I should, however, like to say here that I do believe that the early and active administration of salicylic acid in rheumatism may, when so given, protect the myocardium to no inconsiderable extent. I have never as yet seen the toxic effects of this drug on the heart as described by Osler, although I have been accustomed to employ it in massive doses in selected cases.

As to the advisability of attempted control of overaction of the heart, I am as yet undecided. Some cases seem to me to do better when we allow the heart to take its own way in this respect, and undoubtedly, at least to a certain extent, the rapidity of the heart is in a way a physiological reaction. I am convinced that drugs

should not be given for the purpose of slowing the heart in these cases and I have during late years entirely discontinued the use of aconite and, to a large extent, that of digitalis and its group in cases of this kind, although when a previously diseased heart is known to exist it may be desirable from the first to give digitalis to get the necessary rein on the heart so that it may better respond to quick stimulation if necessary later on in the disease. The ice bag to the praecordium is my favorite method of controlling overaction of the heart in the acute fevers, and when it is apparently accentuated by nervous stimulation, I like to use codeine, the bromides, and morphine, all drugs having, I believe, most excellent effects in this condition and being entirely free from integral toxic effects on the heart muscle. Again, I wish to refer to the advisability of venesection in many instances, especially in full-blooded patients.

In the control of high temperature I do not believe that coal tar products should be used, although they often reduce the excessive temperature very promptly and in disease of short duration may occasionally be given with little risk. They are all more or less poisons to the cardiac muscle and are, therefore, more apt to add to the degeneration in these diseases, than to lessen it through reduction of the fever. Again I believe that alcohol sponges, cold water packs, ice water enemata, spray baths, and the like, are the most safe measures. When quinine, aspirin, or other salicylic compounds act as febrifuges, these drugs may, I think, be used with safety. As a rule, however, except in specific indications, they have very little effect in this direction.

Among general methods to be put into execution for the prevention of dilatation in the fevers, is primarily the removal of every unnecessary strain on the circulatory apparatus. Rest in bed, with the interdiction of certain movements, such as sudden sitting up, or turning, are very necessary. Relief from mental excitement and stress and from any other factor which may cause a rise of the blood pressure, especially a sudden one, or which may excite increased rapidity in the heart action is very essential.

I shall pass very quickly over the discussion of the management of acute dilatation of the heart when it has developed, because I believe that we all agree very largely on this point, we all do about the same things, and I feel that once the acute dilatation has arisen, we all get about equally bad results. There are, however, a few points which I do wish to bring up for discussion. I

do not favor digitalis in the acute condition, though I do employ it in convalescence. In many instances, as graphically stated by MacKenzie, it does render the action of the heart worse, the pulse more irregular, due to accentuation of defective bundle conductivity and in most instances its stimulation effects, if any be obtained, are achieved too late to do any good. The drugs which I do use, are morphine to quiet the pain, lessen the nervous excitement and distress, and, possibly at the same time, to lessen the tension on the general circulation. Strychnine may be given for its action on the muscle, adrenalin for raising the pressure to an adequate point when it suddenly falls, camphor hypodermically for its somewhat similar action, and, most important of all, bleeding to relieve the overdistended right heart. Posture may also materially assist. The ice bag must be removed from the cardiac area when actual dilatation arises in its acute form, for I believe it renders the muscle contractions still more inefficient, and it certainly increases irregularity, although it may lessen rapidity.

I am fully convinced that, as a class, we have paid too little attention to the conservation of the heart in convalescence from acute fevers and too little importance is likely to be attached to the condition of the myocardium during this stage, even when we fully recognize that the heart muscle must have been compromised.

I have made the sad mistake more than once of allowing the patient to get up too soon or otherwise to submit his circulation to too much strain. As a result I have undoubtedly permitted the development of a chronically diseased myocardium where a little longer in bed, a little more attention when the patient first began to sit up and to walk about, might have restored a normal heart to a patient who became thereafter a chronic sufferer from myocardial insufficiency.

The patient with, or convalescing from, the acute fevers should rest in bed. Blood pressure and strain must be kept down by hygienic and dietetic measures or, if necessary, by blood letting or sedatives until the heart muscle has been able to regenerate itself. The natural tendency in parenchymatous degeneration of the myocardium is toward recovery, but if strain is put upon the heart too early and before this restitution has taken place, aneurysm, fibrosis, or a fatty degeneration is sure to follow.

Our diet should not contain *too much fluid*, and fatty foods, the starches and sugars, should be curtailed. Other conditions not contraindicating I am strongly in favor of a highly nitrogenous diet in this stage of convalescence.

Frequent examinations of the heart, under varying conditions and postures, should be made and, before the patient is allowed to be up and to go about, I think that all medication should have been first discontinued, so that we may, in our examinations, be able accurately to determine the real condition of the heart and to estimate its muscular strength rather than to be misled, perhaps, by the action of the heart muscle when under the whip of a stimulant. In any case, examinations of the circulatory condition should be made from time to time until convalescence is complete. I especially wish to mention in this regard, close observation of the blood pressure curve.

The study and appreciation of what is taking place in the heart muscle during the acute fevers, and the attempt to prevent or limit damage to the myocardium, have well paid me and I believe that a thorough understanding of what the lesion usually is, how it is produced, how it may regenerate, or how it may lead on to permanent muscular defects will bring us to the point where we shall find that fewer of our patients date their cardiac inefficiency back to an attack of an acute fever.—*New York Medical Journal*.

ASPECTS OF ABDOMINAL PTOSIS.

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Boston.

The conventional writers, in discussing ptosis of the abdominal organs, begin with Glenard, tell about his investigations on prolapse of the stomach, kidneys and intestines, and then go on to discuss the causes of ptosis, assigning the cases nearly always to women, and stating that the common causes are frequent pregnancies, great loss of abdominal fat, corset wearing, overwork and similar physical experience. Further, so lately as one year ago, certain well-known writers on gynecology and orthopedic surgery endeavored to show that ptosis of the abdominal organs is due not only to the causes already mentioned, but to faulty postures and to diseases of the spinal column.

In contrast with these well-worn and generally accepted explanations of ptosis, investigators during the past few years have learned that in fact *acquired* ptosis is comparatively rare, but that *congenital* ptosis is an extremely common condition. We must mark that word *congenital*, for about it centers our discussion;

while the symptomatology and treatment of the disease depend immediately on the congenial condition.

For many years anatomists have been demonstrating that congenial ptosis of the abdominal organs is found in about 20 per cent of all dissecting-room subjects, that is, some degree of ptosis. Such ptosis or sagging of the organs from their normal positions is due primarily to developmental defects. We are familiar with the fact that in the lower animals, especially in quadrupeds, the abdominal viscera hang suspended in mesenteries of considerable length. Owing to the horizontal postures of the lower animals, these long, sagging mesenteries cause no inconvenience. In the developing human fetus the same condition of long mesenteries is found early in intra-uterine life. After the second month, however, such long mesenteries contract, so that at the time of full term, when the child is approaching the stage of being held upright or standing upright, the supports of the viscera have so far contracted, that the abdominal organs are held tightly against the posterior abdominal wall, often with no mesentery whatever on their posterior aspects. This is true of the main abdominal organs with the exception of the small intestine and the transverse colon, which we know hang freely movable in long mesenteries. A large number of persons, however, are born without their other mesenteries being properly retracted, so that on examination we find that their stomachs, livers, kidneys and large intestines hang in mesenteries of abnormal length. The large intestines, especially, are found thus abnormally placed, so that they may sag suspended and lie at the bottom of abdomen or within the pelvic cavity.

In the treatment of abdominal ptosis, we surgeons are concerned greatly with the ptosis of the colon; for this ptosis causes marked symptoms often, and may be the source of permanent and exaggerated ill-health. Be it observed, however, that a congenial ptosis by no means always causes trouble; an infant or young person of good heredity, of robust physique, plentiful fat and vigorous musculature may be able to support the disadvantage of a long mesentery and live through life, even without knowledge of the difficulty.

An example of the first or acquired type of ptosis is that of a lady, Mrs. K., whom I was asked to see some two years ago. She was a woman of thirty-five, always vigorous, and active, and the mother of two children, the youngest one year old. Her story was that about two months after the birth of her last infant

she began to be troubled with frequent flowing, which persisted, varying in amount but continuing for some eight months. Her physician had endeavored to relieve the discomfort, but without permanent effect. He found the uterus retrocessed and retroverted, and finally recommended curettment and suspension of that organ. I was asked to perform the operation. I found the uterus in the condition commonly called subinvolution, lying low in the pelvis, pressing against the rectum, with the cervix looking toward the bladder. After curetting the uterus, I raised it and suspended it by securing the round ligaments outside of the recti muscles. This patient recovered perfectly from the operation and for two months thereafter regarded herself as well. Gradually, however, she became aware of pain, and increasing pain in the region of the abdominal scar, pain which became extremely severe after long standing, but subsided entirely when she lay down. At first it seemed impossible that this pain could be in any way associated with the operation. Finally, I was asked to go to her house in country to examine her. I then ascertained that the uterus was still in excellent position, but that the woman's abdomen was extremely relaxed and flaccid and that on standing the abdominal organs settled down upon the freshly attached uterus. This pressure, of course, was relieved when she lay down. In other words, an unnatural drag was exercised on the uterus by the abnormally motile abdominal viscera. This patient was completely relieved through having her abdomen supported by a properly constructed and well-fitting belt. Since that time she has regarded herself as perfectly well.

A type of *congenital* ptosis was that of a child, Lilian A., who at the age of four was a victim of chronic joint disease, a most obstinate constipation, a fretful temper and disturbance of vision which eventuated in double cataract. The x-ray showed this child's stomach and intestines to be misplaced and to hang many inches below the normal position. The ascending colon was crumpled and lay in the false pelvis, while the transverse colon sagged below the pubes. Owing to the child's extreme youth and restlessness it was found impossible to correct this malposition by apparatus. A number of operations were done to relieve her, such as colostomy and transplanting the ileum into the sigmoid flexure. The upshot of the case at this writing is that her constipation is cured; her arthritis greatly relieved; her failing eyesight partially restored; and her peevish and irritable temper changed to a sunny disposition.

Dr. J. E. Goldthwait has made an extensive study of ptosis in connection with joint diseases; and much of my own work on the subject has been done in association with Dr. Goldthwait. One of the most interesting observations of his relates to the posture of victims of ptosis. They stand in a round-shouldered, flat-backed attitude. He points out that this is due to the fact that the pull exercised on the superior supports of the diaphragm, overweighting the deep cervical fascia, is continuous in the pericardium, which in its turn has diaphragmatic attachments. In other words, we know that the diaphragm and the subdiaphragmatic organs have a superior support and are hung, as it were, from the neck. When ptosis becomes pronounced, and the drag on these superior supports becomes excessive, the patient stoops and thrusts forward his chin, in order to relieve the pull which in an abnormal degree has been established upon his neck.

It would be interesting, were there time, to discuss the anatomical malpositions of the various abdominal organs concerned in ptosis. Let us, however, glance briefly at some of the proof. The stomach, held up largely by its omental supports, sags when these supports sag, but its fixed points at the cardia and the pylorus remain attached; as a result, kinking of the pylorus occurs, and conditions are established which favor pyloric obstruction, with resulting gastric hypertrophy and dilatation. The pancreas becomes more or less uncovered as the stomach sinks; it is dragged upon, its circulation is interfered with and its ducts disturbed. The epigastric aorta becomes partially uncovered, so that epigastric pulsation is obvious both to the patient and to the physician. With the descent of the other abdominal organs, accompanied or not by the liver, the bile ducts are put at an unnatural tension, and the question is raised whether or not this tension may not be a factor in bile duct disease. Certain investigators have asked us seriously, "Is it not possible that such tension put upon the pancreas and the bile ducts may lead to disturbance, or even to destruction, of the island of Langerhans, so that actual diabetes may be established?" With the stretching of the superior mesenteric artery and the unnatural descent of the small intestines, pressure is exerted over the lower portion of the duodenum; there results, therefore, duodenal dilatation, gastric dilatation and occasionally that condition known to us as gastro-mesenteric ileus.

The right kidney, especially, seems to be associated with the ascending colon—at any rate it is a rare thing to find a descent

of the colon or hepatic flexure which does not combine with it a descent of the right kidney. I need not only to mind you of the infrequency of right floating kidney. The suspension of such a right kidney is not followed by complete relief of symptoms. The obvious reason is that suspension of the right kidney fails to suspend or to return to proper position the other misplaced organs. I have referred to the great number of displacements of the colon, but I must remind you of the important fact, that the splenic flexure—that portion of the intestine at the beginning of the descending colon—is usually a fixed point high up beneath the diaphragm on the left.

With the general abdominal ptosis, pelvic ptosis is almost always associated; so that we find displacements of the uterus and appendages in most of these cases.

The effects of ptosis on the functions of these various organs are often unexpected, surprising and puzzling. I quote a case in illustration. Some three months ago, I saw in the Massachusetts General Hospital a woman, forty years of age, who came in for her seventh abdominal operation. She told this story, which was supported by the hospital records: For some five years she had been a surgical invalid; first, she was operated on for appendicitis, and with apparently good cause, as she suffered from much pain and tenderness in the region of the appendix. The operation was followed by considerable relief of symptoms, but six months later she had an attack of jaundice with pain in the region of the gall bladder. She was operated upon for the second time for this disturbance. No actual stones were found; the gall bladder was drained. At the same time a chronic pancreatitis was observed. A year later, before she had completely recovered her strength, she suffered much from pain in the right kidney region. Her right kidney was found to be prolapsed, and was secured by the operation of nephropexy. This was the third operation. Some months later she became the victim of an exasperating dysmenorrhœa with left ovarian neuralgia. For the fourth time she was operated upon; a cystic left ovary was removed and the uterus was suspended. A year later she suffered regular and distressing pains in the epigastrium with symptoms of intestinal obstruction. For the fifth time she was operated upon, and a collection of adhesions in the epigastrium was removed. Not long after this she was operated upon for adhesions, this time causing trouble low in the right abdominal quadrant. When she entered the hospital

for the seventh time I examined her carefully, and could not but suspect that much of her previous trouble might have been due to visceral ptosis. Accordingly an examination of her abdominal organs by means of the bismuth x-rays was made and showed a stomach low, with its lesser curvature at the navel, while the ascending colon was crumpled into an "S" shape and lay with the transverse colon deep in the pelvis. From this low point the transverse colon sought the position of the high normally placed splenic flexure. Throughout much of its length the transverse colon lay parallel with and closely applied to the descending colon. The woman was suffering obstinate constipation and obstruction, while most of her pain, being now transferred to the left side, obviously was due to the difficulty found by the fecal stream in passing the splenic flexure. Having established these preliminaries, I operated by excising the splenic flexure and implanting the transverse colon into the sigmoid flexure. I have little doubt that the condition of exaggerated ptosis of her abdominal organs was a large factor in producing the various lesions for which she had been operated upon in the past.

The *symptoms* of abdominal ptosis are so numerous that this division of the subject alone would occupy us for an evening, and the symptoms are dependent upon the special organs prolapsed and on the extent of such prolapse. My own studies have been concerned especially with the prolapse of the stomach and intestines. A prolapse of the stomach leads commonly to stasis, to pyloric kinking and obstruction, to food retention, to fermentation, to toxemia, rarely to gastric tetany, frequently to loss of appetite with chronic nausea and occasional vomiting. With these symptoms there go headaches of various types, loss of flesh and strength, secondary anemia, changes in temperament, peevishness, irritability, marked symptoms of that condition commonly called neurasthenia, and a general breakdown of mental and nervous poise.

The extent of prolapse of the stomach is often surprising. I warn you to remember always, that gravity enters into this problem, though gravity is not exerted to its greatest advantage, for the contents of the abdomen sink gradually when subjected to gravity. There is no sudden falling out of place, as is often assumed. Nevertheless, you will observe a marked distinction in the positions of the prolapsed organs of a person lying down and of the same person standing. Often in the case of the person

lying down little or no prolapse of the stomach is obvious, when on standing it may be seen to fall below the navel. Such a prolapse may interfere with the important blood supply and innervation of the organ; so that it may well be that conditions favoring actual destruction of tissue are set up. At any rate, it is certain that gastric ulcer is not infrequently associated with these cases of prolapse, when the ulcer itself through perigastric adhesion is not an obviously causative factor in the prolapse.

Prolapse of the large intestine is probably far more significant than prolapse of the small intestine. Indeed, prolapse of the small intestine is more or less a normal condition, though such prolapse of the small intestine may be instrumental in causing the other abdominal organs to fall with it. I have indicated one result of prolapse of the jejunum, when I spoke of obstruction of the duodenum and gastro-mesenteric ileus.

Observe, now, that the colon also often has a long mesentery. When such a long mesentery is present, it is obvious that the colon will fall about as good a deal as the small intestine falls about. One might well ask why such a falling about of the colon leads to a definite train of symptoms, when a prolapse of the small intestine is normal. The answer is, unquestionably, this: The colon has in mid-course definite points of fixation, the most important of which is the splenic flexure. One sees, then, that prolapse of the ascending and transverse colons is significant, especially when the splenic flexure remains fixed, because in this case the ascending and transverse colons may swing down from the point of fixation of the splenic flexure. As a matter of fact, this frequently happens. We see the down-hanging caput, the crumpled and displaced ascending colon, the hepatic flexure eliminated, and the transverse colon sagging low in the abdomen, and often hanging straight down from the splenic flexure. As a result of these conditions the blood supply and innervation of the prolapsed colon are materially affected; the colon becomes more or less anemic and catarrhal; it loses its active peristaltic force, fecal accumulations bank up within it; the fecal masses ferment and increase the irritation of the mucosa, so that chronic catarrh of the intestines results, often with stercoral ulcer, with accumulations of gas, and with a pronounced, obstinate and distressing constipation sometimes alternating with diarrhea. These patients may have infrequent and difficult bowel movements; the stools resembling those of the herbivora, being small, hard and marbled.

like. Such small masses are demonstrated readily by the bismuth x-ray examination. The banked-up masses may lurk in crypts and folds of the colon, even though regular movements of the bowels are maintained; so that the patient may be a victim of destruction of the intestinal mucosa, of colitis, of fecal retention and of a consequent general chronic toxemia.

The *toxemia* to which I have referred is one of the most important factors in the symptomology of abdominal ptosis. We have long talked of auto-intoxication, often without a clear comprehension of its nature. I have found, when removing one of these so-called normal colons, abundant cause for such toxemia; in such a colon removed *in toto* I have found extensive areas of destruction of the mucosa; collections of extremely foul masses of feces; numerous ulcerations; in fact, all the conditions necessary to establish an easy channel for systemic intoxication from this cesspool of a colon.

The results of these toxemias are interesting and are still the subject of investigation. Certain results are definitely proven, others are hypothetical, others are matters of suspicion merely. Unquestionably we get, in these cases, gastric and intestinal indigestion, serious forms of headache, certain forms of iritis, and disorders of the lens even; extensive mucous inflammations; irritations of the mucous sacs and cavities; manifold evidences of neurasthenia, so-called; mental and nervous phenomena, leading even to mental aberrations; perhaps a serious joint complication, as Goldthwait demonstrates; and not improbably disorders of the ductless glands.

In this last connection I beg to inform you of an extremely interesting series of observations I have made in the last year, and that in connection with exophthalmic goitre. A year ago I observed that certain of my cases of Graves' disease, were victims of abdominal ptosis, and I began making careful observations of the abdomens of all cases of Graves' disease, with the result that I have thirteen consecutive cases of Graves' disease, all of which suffered from severe abdominal ptosis. I am not yet able to draw any conclusions from these observations, but am waiting to collect data from a larger series. It is an extremely interesting fact, however, that recently, before submitting cases of Graves' disease to operation, I have attempted to correct the ptosis and have been able in several cases to give the patients marked relief from their Graves' symptoms; even though such

correction of the ptosis has had, perhaps, no effect on the course or duration of the exophthalmic goitre.

The *diagnosis* of abdominal ptosis is easy, after one has become familiar with such patients. Often one can make a diagnosis when the patient enters the office. These persons are apt to stand in a faulty posture, with slightly rounded shoulders, protruding chin and flattened dorsal spine. On stripping the individual, one observes that the epigastrium is flat, often pulsating, and that the belly below the navel protrudes in the characteristic fashion. With the patient standing, if you place your hand beneath the protruding belly, raise it gently, and at the same time with the other hand exert pressure over the lower dorsal spine, the patient will almost always exclaim, or admit, that she experiences relief.

With the patient on the examining table, one observes further obvious displacements, sometimes a slight descent of the liver; epigastric pulsating of the aorta; unusually broad tympany; the movable and easily replaced right kidney; the retrocessed and retroverted uterus. Examine the rectum and you will find that the finger enters the sphincter with great difficulty; the sphincter is hypertrophied, and the rectal ampulla is collapsed. A further and most important sign is the narrow costa-iliac space, i. e., the space between the lowest rib and the iliac creast. In most normal individuals, this space is as broad as the hand; in the victims of ptosis, the lowest rib nearly touches the iliac crest, so that the space will barely admit a finger. If you wish to experiment by distending the stomach with air or water, you may gain some information regarding its size and position, but the undertaking is distressing to the patient and troublesome to the physician. The further, most important, and final element in the investigation is by the x-ray. X-ray work on the stomach and intestines is in the province of the most skilled specialists; few x-ray operators as yet are doing satisfactory work. The method, in brief, consists in feeding the patient a large breakfast of cereal mixed abundantly with subcarbonate of bismuth. The x-ray picture of the stomach is taken instantly after the ingestion of this meal; the x-ray picture of the colon is taken twenty-four hours later, when the bismuth masses have filled the lower portion of the bowel.

The *treatment* of prolapsed abdominal viscera is intricate and is till the subject of study. I will hint at some measures. Treatment consists in postures; in the wearing of braces and belts; in

exercises, and in operations. If I have a moderate case of abdominal ptosis to deal with, I give the patient these instructions: Three times a day, after meals, lie down for half an hour on a flat, hard mattress without a pillow under the head, but with a small pillow between the shoulder blades. At least once a day assume an exaggerated Trendelenburg position by raising the foot of the bed or sofa much higher than the head. Supplement the postures by shoulder braces, which usually tend to correct the rounding shoulders and make easier a proper elevation of the head and dorsal spine. Employ such massage, and light graded exercises under direction as shall stimulate and improve the condition of all the muscles, especially those of the back, abdomen and shoulders. Have made, and wear continuously, except when in bed, a proper abdominal support, I must observe, parenthetically, that a proper abdominal support is extremely difficult to secure; I have myself been working at the problem for some five years, and with the assistance of a skilled corset-maker, have now developed two "corset-belts," as I call them, which raise the abdomen and support the dorsal spine. These abdominal supports obviously cannot replace the prolapsed viscera, but they do lift them slightly and take the strain off from the stretched mesenteries.

The *operations* which may be done are numerous, but the indications are too intricate and difficult for a thorough discussion here and now. Suffice it to say that we endeavor to re-establish in proper continuity the fecal stream. This is done, sometimes by appendicostomy; sometimes by a temporary colostomy, which supplies an artificial anus; sometimes by implanting the ileum into the sigmoid flexure; and sometimes by removal of the whole colon, so that the stream from the small intestines empties directly into the sigmoid.

Briefly, the results of our studies in abdominal ptosis are encouraging. We have now had some 65 marked and serious cases, to say nothing of a large number of less important cases. Nearly 90 per cent of these cases are much improved, and the symptoms are often relieved by the simple methods of posture and by abdominal supports. A few rare cases have required operation, and the indications for such operations are becoming constantly more obvious, while the results are more and more satisfactory. We feel an increasing confidence in our measures and a conviction that through these studies a large number of

cases hitherto regarded as obscure, inoperable or incurable are now being brought within the range of rational and successful therapeutics.—*Boston Medical and Surgical Journal*.

Recent Progress

INFLAMMATORY TUMORS PRODUCING INTESTINAL OBSTRUCTION.

A. Primrose, Toronto (*Interstate Medical Journal*, September), reports four cases of abdominal tumor of inflammatory origin, three of which probably had origin from a chronically infected appendix or sigmoid diverticulum, the fourth developing as the result of post-partum infection. The first case was in a man of forty-seven, with almost complete bowel obstruction, who had a mass filling the pelvis and extending into the left iliac fossa, which was diagnosed rectal carcinoma. In opening the abdomen, the appendix was found imbedded in the mass. This was removed and an inguinal colostomy attempted, but found impossible on account of a short mesentery. The bowel was then divided transversely and a Paul's tube secured in each end. Three weeks later a portion of the mass was removed through the rectum and pronounced purely inflammatory by the pathologist. Three months later the tumor had largely disappeared and the rectum which before barely allowed the passage of a No. 10 E. catheter, now easily admitted a bougie one inch in diameter. An end to end anastomosis was done at the seat of the colostomy and the patient was restored to perfect health. In the second case, a girl of twenty-two, the tumor resembled sarcoma arising from the left iliac bone. The appendix had been removed for acute infection five months before. The tumor was separated from the ilium and found to involve the sigmoid. A portion of the mass was removed and reported by the pathologist to consist solely of inflammatory tissue. Following operation, a fecal fistula developed which closed spontaneously. The tumor slowly disappeared and four months later the patient was perfectly well. The third case, a woman of forty-five, had in the previous year and a half, six attacks of acute pelvic peritonitis. There was almost complete bowel obstruction. A mass was found in Douglas' pouch in which was imbedded the appendix and a loop of small bowel acutely kinked. The appendix was removed, and a much injured portion of the small intestine resected. Complete recovery

ensued. In the fourth case, the mass developed following a puerperal streptococcus septicemia. Intestinal obstruction occurred and necessitated two operations. Obstruction again developing, a Paul's tube was inserted in the ileum. Later the fistula was closed by plastic operation and recovery followed.

SOME COMMON ERRORS IN THE TREATMENT OF DIABETES.

Homer Wakefield, New York (Medical Record, September 16, 1911), states that errors in the treatment of diabetes are frequently due to a faulty conception of the conditions present. Prophylaxis and neutralization of the acidity present are not undertaken. Gastrointestinal fermentation is not treated, excessive ingestion of acid and acid forming foods is not prohibited, and tetanoid states of peripheral tissues causing development of sarcolactic and betaoxybutyric acids are not considered. Administration of neutralizing alkalies should be carried just far enough to keep up a daily slight alkalinity of the urine. Bicarbonate of soda should be given in hot water on rising and between meals, never after them. Syrups, sweetened foods, sugar, malt foods and malt beverages should be prohibited, because they produce acids. Diastatic ferments should never be given. The diabetic should get the carbohydrates that contain the least sugar, and are most rudimentary and concentrated; the vegetables should be those that contain most cellulose and other excrementitious matters. In diabetes there is a sluggish state of metabolism; oxygenation must be improved and for this purpose exercise is important. Each case must be individualized and the mental condition must be treated. In order that the treatment may be successful, the intelligent co-operation of the patient must be gained.

HEMOPHILIA TREATED WITH ANTI-DIPHThERIC SERUM.

Houg (Milwaukee Medical Journal, February, 1911), accepts Hammersten's theory of coagulation to the effect that a proteid of a globulin type called fibrinogen is held in solution by plasma. This proteid, being an end product of the white cells, further disintegrates when withdrawn from the body, forming the nucleoproteids or prothrombin. When calcium salts act on this, we

get the fibrin ferment or thrombin. When thrombin comes into contact with the fibrinogen molecule dissolved in the plasma, it splits into two parts—one a globulin of no importance, and the other an insoluble fibrin which entangles the cells in the blood, so essential to clot formation. Hence, according to Hammersten, coagulation depends on:

First, calcium salts to convert prothrombin into thrombin.

Second, fibrin ferment.

Third, fibrinogen in solution.

He had occasion to treat a hemophilic mechanic who suffered from a laceration of a finger, having failed with adrenalin, heat, pressure and calcium chloride. On the fourth day he gave 200 units of diphtheric antitoxin, and on the next morning 2,000 units more, with a stoppage of the hemorrhage within fourteen hours after the first dose.

TREATMENT OF TYPHOID FEVER BY VACCINES.

Meakins (Canadian Medical Association Journal, June, 1911), reaches the following conclusions:

1. The prophylactic use of vaccines is of great value in diminishing the incidence and mortality of typhoid fever.
2. The treatment of typhoid fever by vaccines shortens the course and diminishes the severity of the disease.
3. This treatment has also a very beneficial influence on the number of complications, relapses, and deaths in typhoid fever.
4. The only successful treatment of typhoid carriers has, up to the present time, been that of autogenous vaccination.

FACT AND FANCY ABOUT THE HOOK-WORM.

Henry J. Nichols, U.S.A., (Medical Record, August 12, 1911), corrects some of the ideas that have been lately advanced about the results of the presence of the hook-worm in the intestine. He thinks that unless present in large numbers these worms give few symptoms and do not produce enough anemia to cause the general laziness of the inhabitants of the tropics. Cases infected in the latitude of New York State are rare. The soil necessary for their existence must be both hot and moist, and when it is hot enough here it is too dry for the larvæ. Also in this climate there is not the marked contamination of the ground with fecal

matter that is found in communities where there are practically no toilet facilities, and where the feces are deposited as a rule on the ground. In Porto Rico many of the inhabitants are severely infected, while in the Philippines although infection is frequent the number of worms in each patient is small. Other diseases are a much greater menace here and in the Philippines than the hook-worm disease. The worm does not multiply rapidly after entering the system, and is easily driven out. The essential point is the degree of infection with the worms. Light infections are practically negligible. Damage caused by other organisms may be ascribed to the hook-worm. The efforts that are made against it should be in the line of the proper disposal of excreta.

TYPHOID FEVER.

L. L. Lumsden and W. C. Rucker, Washington, D. C., and A. W. Freeman, Richmond, Va., the Committee on Typhoid Fever of the Section on Preventive Medicine and Public Health of the American Medical Association, publish their report in the *Journal A. M. A.*, September 9. After noticing the general prevalence of the disease and describing the typhoid germ, they point out that the sources of the infection are the excretions of the human body and the usual portal of entrance is the mouth, through food, water, milk, etc. In certain communities typhoid fever is endemic though it may be of exogenous or endogenous origin. While the same general factors exist in both rural and urban districts, in the former the factors of water, milk and other foods are not so prominent as in the latter, while flies, contact, etc., are even more potent. They map out a method of investigation of typhoid epidemics, the location of all cases and all suspicious conditions, the nature of water-supply, diet, sanitation of homes and surroundings, etc., etc. Unless there is evidence early in the epidemic that milk is responsible, the presumption is in favor of the water origin and careful surveys should be made and every possible source located. In case of a possibility of milk infection each source should be investigated and the possibilities of infection en route to the consumer and the possibility of the existence of typhoid carriers should be considered. The determination of other articles of food than milk as a source of typhoid is a difficult matter and failure to find the organisms should not negative strong epidemiologic evidence. The possibilities of

endogenous infection are also noticed at some length, and the local distribution of cases and their occurrence in time is worth attention. If the sanitary conditions are bad, with open sinks, etc., it gives important corroborative evidence of endogenous infection. The prevention of typhoid fever includes a thorough oversight as to the water-supplies, examination and supervision of wells and springs in rural communities and, where an adequate sewerage system is impracticable, the disinfection of excreta, building of sanitary privy arrangements is essential. The material from these should never be used for fertilizers on gardens or truck farms. Milk production should be under constant rigid supervision and the consumer be given the benefit of all doubts. No milk can be considered safe from accidental infection without efficient pasteurization. Accurate supervision of all cases is imperative and prompt diagnosis of suspicious cases by laboratory methods, preferably by the blood-cultures, is recommended. Destruction and prevention of breeding of flies, protection of garden truck, and fruits, and all kinds of human food, inspection of restaurants, soda fountains, and ice-cream factories, and especially the education of the public as to the dangers and methods of their prevention are of the utmost importance. The value of vaccination is recognized but the duration of the immunity conferred has not yet been definitely determined. Results of agglutination experiments would indicate that it lasts less than a year, but it should be remembered that this duration of the immunity and the persistence of the agglutinating reaction may not coincide. The facts known, however, warrant a conclusion, the authors say, "the prevention of typhoid fever in the United States to-day depends on an improvement in the present methods of disposing of human excreta. Until all the people can be taught that the most dangerous material with which they come in contact in their daily lives is filth from human bodies, and until their sanitary habits are so changed that human filth is prevented from reaching human mouths, the prevention of typhoid fever cannot be consummated."

WOUND CLOSING DEVICES.

E. Wyllys Andrews, Chicago (*Journal A. M. A.*, August 19), speaks of the disadvantages of prolonging the time of the anesthesia in the suturing of wounds. If, with equal security and

asepsis, wounds can be brought together in a shorter time the safety of the patient would be further insured. The use of the Michel skin clips will shorten the time of a herniotomy or an appendectomy about five minutes. If we could only use them for all layers sixty seconds would be ample for deliberate layer-by-layer closure of the abdominal wall. To make this possible he has devised clips of absorbable metal for buried sutures and closing blood-vessels. For a number of years also, he has been trying to perfect a sewing machine for wounds, but, in spite of the fact that several small hand and toy machines are small enough, none of them can be brought to work in cavities or be sterilized easily, and he therefore has given them up. After some years of experimenting he has turned to forceps and needle for surgical work and has constructed several forms of forceps which will actually sew the skin and deep layers more smoothly and rapidly than by hand. These qualities may be sometimes a drawback, as no machine can supplant the delicacy and tactual sense of the human fingers, but in external work a machine-sewed wound may well be neater and better adjusted than one sewed by hand in equal time. The classes of stitches better placed by machine than by the fingers or needle forceps are; "1. Deep suture ligatures, single or multiple, around vascular pedicles, as the mesentery meso-appendix, broad ligament, hernial sac, etc. In the depths of a wound or cavity with the sewing forceps one does not have to see the needle point. The forceps automatically and infallibly grasps it and draws it through. It is a particularly rapid method of cross-suturing a wide pedicle of any sort. 2. Straight lines of suture, in which accuracy of spacing rather than accuracy of fitting is desirable. Such wounds are abdominal incisions, both muscle-splitting and in the middle line. These are rarely closed now by single rows of deep stitches, but almost universally by anatomical restoration of the concentric layers from within outward. The suturing machine does this with a speed and accuracy far greater than the hand or needle-holder." The larger part of his paper is devoted to the new forms and applications of metal clips, which have almost superseded other methods in his surgical practice. They have the advantage of immediate application, asepsis, rapid healing, painlessness and avoidance of scars. They give a ridge shaped of folded-up suture line and cause no perforation of the skin. These advantages are discussed in detail, as well as the possible disadvantages of lack of strength and

flexibility. He illustrates the different forms he has used and their applications and calls attention to their value in intestinal work. In all locations permitting them to drop off into the alimentary canal they are safe and speedy of application. They can be used on the mucous surface, but not on the peritoneal, nor in place of the Lembert suture. These limitations do not prevent their being of great use, however, in work about the intestines. As a substitute for artery forceps and ligatures Andrews finds the small clips of great value. Their action is clamp-like and they check oozing promptly, and the objection to leaving small, staple-like foreign bodies in wounds or cavities is slight as compared with their advantages. The metal used for outside work is German silver and they must have no elastic tendency to spring open after clamping into place. For deep sutures he has tried aluminum, zinc and magnesium. The latter would be ideal but for its brittleness, and he is now using an alloy of these metals, which is tougher and promises well for rapid absorption. He will report on this material when he has used it in more operations.

A MEANS OF CONTROLLING THE HEMORRHAGE
FROM INOPERABLE NEOPLASMS OF THE
BLADDER: WITH CASES ILLUSTRATING
THE TRYPSIN AND HODENPYL-
SERUM THERAPY.

L. Bolton Bangs, New York (Medical Record, August, 1911), states that one can relieve the hemorrhage from tumors of the bladder, which are a cause of great apprehension to the patient, by the use of a solution of creolin injected into the bladder. Creolin is an antiseptic with hemastatic properties. The author gives the histories of four cases in which it was used with benefit. A one per cent solution is found to be efficient for this purpose. It relieves irritability of the bladder at the same time it reduces the size of the tumor. The author has found no value in the use of ascitic serum or of trypsin in cases of cancer of the bladder. In one case the Hodenpyl serum was used persistently for a long period without any apparent benefit. Although there is no permanent cure to be hoped for by the use of the creolin treatment, still the life of the patient is made more comfortable and often prolonged considerably.

THE FUTURE OF THE PHYSICIAN.

In his oration on state medicine at the meeting of the American Medical Association at Los Angeles (Journal A. M. A., September 16), Dr. W. A. Evans, of Chicago, took up the subject of the future prospects of the medical profession. The blind faith that used to be given to the family physician has passed away. The public has become educated through all the recent medical controversies, the growth of specialism, etc., and physicians must adapt themselves to the inevitable changes that have been or are taking place. Nothing is gained, he thinks, by opposing the inevitable, but much may be lost. Much of our former practice has been unprofitable. On the average the physician does not make much by treating contagious diseases, nor is there much profit in treating consumption, at least in the old way. Nothing which puts a great strain on the community brings money to the physician. Epidemics are not profitable and everywhere the physician who is not thoroughly honest suffers in the long run. His function is the cure and prevention of disease and there is a general law that those who serve are supported. As Evans sees it, the wise thing for the medical profession to do is to get right into and man every health movement. It cannot afford to have these places occupied by others. This means a readjustment of medical work and better intelligence of the public will mean better success for the high-grade physician. He points out the wider fields which will be opened to the doctor by better education of the public, even if he loses the patrons of Christian Science and the counter-prescribers. He sums up his paper as follows: "1. The best interests of medical men demand that they adapt themselves to the inevitable evolutions in their work and in that of health-governing bodies. 2. The physicians should always take the leadership in health movements in their communities. 3. To offset unnatural prejudices, a campaign to demonstrate that this leadership has broad and altruistic motives must be maintained and all right-thinking people must be brought together in support of the great work of physical welfare. 4. This section must be so enlarged as to affiliate with it associations of health officers, Young Men's and Young Women's Christian Associations, sociologists, sanitary engineers, school examiners, those interested in child hygiene, infant welfare, milk commissions and tuberculosis associations, ventilating engineers, housing, students' and school teachers' associations; in a word, all of those bodies that are

working for physical welfare. A working plan for co-operation with these should be worked out by this section of the American Medical Association, so as to prevent duplication. 5. Subsections for some of these should be established in this section. The constitution and by-laws of the American Medical Association should be so amended as to include such workers for physical welfare as choose to come in. 6. Every county medical society should inaugurate sections to take up different divisions of welfare work and should give modified membership in their societies to all local workers for physical welfare. 7. There should be a health journal or health newspaper maintained by this association for the purposes of public education on physical welfare. 8. This section must work closely with the Council on Hygiene and Public Instruction, directing it and receiving direction from it."

Book Reviews

DISEASES OF THE STOMACH. WITH SPECIAL REFERENCE TO TREATMENT. By Charles D. Aaron, Sc. D., M. D., Professor of Gastroenterology and Adjunct Professor of Dietetics in the Detroit College of Medicine; Professor of Diseases of the Stomach and Intestines in the Detroit Post-Graduate School of Medicine, etc. Octavo, 555 pages, with 42 illustrations and 21 plates. Cloth, \$4.75, net. Lea & Febiger, Philadelphia and New York, 1911.

This is a compact work, in which there is much to praise. The style is clear. The author has endeavored to cover the medical aspects of gastric disorders in such a manner as to answer the actual needs of the general practitioner. It is intentionally practical and therapeutic, hence etiology, symptomatology, pathology and diagnosis are introduced only insofar as they are necessary to an understanding of the methods of treatment proposed. Due attention has been given to the use of Antilytic Serum and Bacterial Vaccines. The section on the examination of the gastric contents is quite satisfactory. With regard to surgical treatment, no more has been attempted than to give the indications as the utmost caution is necessary to avoid useless or injurious intervention.

Chapter ten is one which will bear the close inspection of all physicians, as it deals with conditions occurring in the daily routine

work of all engaged in active practice, and is considered conveniently under the heading of Enteroptosis.

The illustrations showing the construction of the author's abdominal bandage, for use in the mechanical treatment of enteroptosis, and the proper method of applying same is most instructive and succinct, readily conveying to the reader the essential ideas and good results which may be expected from the use of such a support.

A critical review shows a text, which, on the whole, is commendable, and at the same time readable and interesting. We unhesitatingly recommend Professor Aaron's book, as it will prove a valuable guide to the practitioner in his daily work.

A MANUAL OF CLINICAL DIAGNOSIS BY MEANS OF LABORATORY METHODS. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, M. D., Professor of Clinical Pathology and Experimental Medicine in the College of Physicians and Surgeons, Baltimore. Seventh edition, enlarged and thoroughly revised. Octavo, 780 pages, with 168 engravings and 25 plates. Cloth, \$5.00 net. Lea & Febiger, Philadelphia and New York, 1911.

Again it is our pleasure to review this well written, instructive and accurate book on Clinical Diagnosis. This new edition has undergone material changes in revision, addition and arrangement, which will be welcomed by physicians and laboratory workers alike. A great deal of material has been omitted, which had in previous editions been introduced to facilitate a proper understanding of the text, and a careful revision of the work and condensing intelligibly matter in former volumes treated more voluminously. The work is divided into two parts: Part I representing the technical portion, and Part II being altogether new, the clinical portion. The laboratory diagnosis of each disease is arranged under its name in alphabetical order, so that the reader desiring to compare a case with the diagnostic picture of a disease can, in this section, at once find it given systematically and connectedly, instead of having to piece it out from scattered sections as heretofore. The two parts are cross-indexed, so that the reader can use the book in either direction, whether he desires to proceed from methods to their application, or from the diagnostic pictures to making the various tests, and vice versa, from actual cases to methods of accurate diagnosis.

The chapter on the blood is especially pleasing and the numer-

ous illustrations and colored plates are excellent. The Wasserman reaction is described in detail and should not prove very difficult if intelligently carried out. The index, as far as tested, is practical and accurate. The entire volume is of exceptional merit and its perusal will amply repay all practitioners who desire to familiarize themselves with modern laboratory advances and methods of accurate diagnosis.

ACKNOWLEDGMENTS.

- 1 SEWAGE POLLUTION OF INTERSTATE AND INTERNATIONAL WATERS; By Allan J. McLaughlin. Hygienic Laboratory-Bulletin No. 77. Washington Government Printing Office, 1911.
- 2 THE PHYSIOLOGICAL STANDARDIZATION OF ERGOT; Charles Wallis Edmunds and Worth Hale. Hygienic Laboratory-Bulletin No. 76. Washington Government Printing Office.
3. (a) DELAYED MENOPAUSE.
(b) THERAPEUTIC DRAINAGE IN ONE HUNDRED AND EIGHTY-FIVE CASES OF UTERINE OBSTRUCTION.
(c) PANHYSTEROLECTOMY.
(d) VAGINOURETEROSTOMY AFTER NEPHRECTOMY FOR PYONEPHROSIS DUE TO A "SIGMATE" CONSTRICTION OF THE URETER; By A. Ernest Gallant, M. D., New York. Reprints.
4. (a) STOMACH DISORDERS REQUIRING SURGICAL INTERVENTION FROM THE VIEWPOINT OF AN INTERNIST.
(b) REPORT OF A CASE OF CARCINOMA OF THE SPLENIC FLEXURE OF THE COLON TREATED WITH THE NEOFORMANS VACCINE; By Charles D. Aaron, M. D., Sc. D., Detroit, Mich. Reprints.
5. THE PROGRESS MADE IN AMERICA IN THE PROTECTION OF CHILD LIFE; By Nathan Straus, New York. Submitted to the Third International Congress for the Protection of Infants. Berlin, September 11-15, 1911.
- 6 U. S. DEPARTMENT OF AGRICULTURE, EXAMINATION FOR ASSISTANT FOREST RANGERS. Released for publication, October 2, 1911.

PRACTICAL GLEANINGS.

A peritonsillar abscess, as a rule, is more painful than serious. But one should not forget that patients have died of suffocation and that erosion of a vessel may take place in the wall of the cavity and cause death.

In amputations on diabetic subjects it is advisable to dispense with the tourniquet whenever possible, owing to the effect of the constriction upon the poorly nourished tissues. For the same reason it is important to avoid any forcible manipulations.

Urinary fever is a serious affection in old men with diseased kidneys. Special care to guard against infection from instruments should always be taken.

A small erosion of the trachea may give rise to a distressing hemoptysis which differs from a hemorrhage from the lungs in that there are no lung symptoms, no loss of weight or constitutional symptoms and in that the bleeding occurs in small lumps of clotted blood.

In diarrhea with bloody stools, do not overlook the possibility of rectal polypi being present.

A child born of syphilitic parents should not be given to a wet nurse until several months have elapsed without the appearance of any manifestation.

NEWS ITEMS.

The thirty-seventh annual meeting of the Mississippi Valley Medical Association will be held at Nashville, Tenn., October 17-19, 1911. The general meetings will be presided over by Dr. Robert H. Babcock, of Chicago, assisted by the vice-presidents, Drs. Chas. E. Barrett, of Ft. Wayne, and Arthur D. Holmes, of Detroit; the Treasurer, Dr. S. C. Stanton, of Chicago, and Dr. Earl Harlan, of Cincinnati.

Symposia upon Cholecystitis, Visceroptosis, Genito-Urinary diseases and a special Therapeutic Symposium will be a notable feature. Special addresses on Pellagra and the Bubonic Plague, by special representatives from the Marine Hospital service, Surgeons Grim and Rucker and the orators in Medicine and Surgery. Dr. J. C. Wilson, of Philadelphia, Joseph D. Bryant, of New York.

Dr. C. W. Suckling and Mr. Wm. Billington, of Birmingham, Eng., will attend specially to take part in the Visceroptosis program.

The program is most attractive and embraces a wide range of subjects. The program for this meeting is largely an invitation one and should be largely attended by hundreds of physicians one and should be largely attended by hundreds of physicians between the Alleghenies and the Rockies.

Dr. C. W. Suckling and Mr. Wm. Billington will be extensively entertained while in America. Among the entertainments being projected are special meetings of the Cincinnati Academy of Medicine and the Jefferson County (Louisville, Ky.) Medical Society.

The annual convention of the American Association of Obstetricians and Gynecologists took place September 26 to 28, at the Seelbach Hotel. An address of welcome was delivered by Mayor William O. Head in behalf of the city, and a similar talk by Dr. Lewis S. McMurty, in behalf of the local members of the association. A most important change was made in the constitution of the organization, in that a Senior Order of Fellows is created, in addition to the Ordinary, Corresponding and Honorary Fellows. The delegates were guests of the local members at luncheon at the Pendennis Club from 1 to 2:30 o'clock during the first day's session. On Wednesday, after the morning session, the delegates were taken to the Louisville Country Club in automobiles, where luncheon was served and where the after-

noon program was completed. The annual dinner of the association was held Wednesday night at the Seelbach Hotel and was largely attended. Memorial services were held for the late Dr. William Warren Potter, of Buffalo, who was secretary of the association; Dr. Joseph Price, of Philadelphia, Pa., and Dr. Carlton C. Frederick.

The election of officers for the ensuing year resulted in the selection of Dr. G. O. Werder, Pittsburg, Pa., president; Dr. Louis Frank, Louisville, first vice-president; Dr. M. A. Tate, Cincinnati, second vice-president; Dr. E. Gustave Zinke, Cincinnati, secretary; Dr. Herman E. Hayd, Buffalo, treasurer. Many interesting addresses were given during the meeting, especially those illustrated by streopticon, cinematographic films and lantern slides as used by Dr. Lewis Gregory Cole, of New York, and Dr. Chas. A. L. Reed, of Cincinnati.

Toledo was selected as the meeting place for 1912, and the time designated was the third Tuesday in September.

The Oldham County Medical Society held an all-day session at Lakeland, Ky., September 27, to study "Pellagra—its cause and cure."

Dr. J. M. Ray, of Louisville, was elected a councilor of the American Academy of Ophthalmology and Oto-Laryngology at its recent meeting in Indianapolis.

Dr. J. B. Thompson, of Louisville, returned from a two weeks' trip to Iowa.

Dr. W. Frank Glenn, of Nashville, spent a few days in Louisville recently.

Dr. Ernest Bradley, of Lexington, was in Louisville for a few days visiting relatives.

At the meeting of the Kentucky State Board of Health held in Louisville, September 13, Dr. John G. South, Frankfort, was elected president. Dr. William A. Quinn, Henderson, and Dr. Joseph M. Mathews, recent appointees, were sworn in as members of the board.

The Kentucky Association for the cure and prevention of tuberculosis has received a gift of \$500 from Mr. T. Coleman Du Pont, of Wilmington, Del.

The monthly meeting of the Falls City Homeopathic Medical Society took place September 19, at the offices of Dr. G. S. Coon. Several interesting papers were presented, followed by general discussions by the various members.

Dr. Louise B. Triggs, Lakeland, has been appointed physician to the female department of the Hopkinsville State Hospital.

Dr. Ap Morgan Vance, a member of the Louisville Hospital Commission, has gone to New York City to attend the annual convention of American Hospital Superintendents.

Dr. Herbert Bronner, of Louisville, was attacked in his office by an insane patient, armed with a revolver, but fortunately escaped injury.

Dr. J. B. Marvin, of Louisville, who spent the summer touring Canada and the Adirondacks, has returned home.

Dr. Rowan Morrison, of Louisville, left September 19 for a short stay in Philadelphia.

Dr. T. Hunt Stucky, of Louisville, has returned from a short stay in Pittsburg.

Dr. DeWitt Wolfe, of Louisville, has returned home after a six weeks' visit in the New England States and New York City.

Dr. Joseph Mathews, of Louisville, has returned from Michigan.

Dr. C. R. Schott, of Louisville, has gone to Hardin Springs for several days.

Dr. Dudley S. Reynolds, of Louisville, has returned from a two weeks' stay in Northern Michigan.

Dr. Ezra Witherspoon, of Louisville, has moved to The Gaston.

Dr. Thomas Dorsey, of Wheeling, W. Va., has been appointed assistant physician of municipal and county institutions at Louisville.

Dr. Asa B. Davis, of New York City, was registered at the Seelbach Hotel, having come to attend the meeting of the American Association of Obstetricians and Gynecologists.

Dr. John Young Brown, of St. Louis, was in Louisville, as the guest of his mother, recently.

Dr. John Goodman, of Louisville, returned after a three months' stay in Northern Michigan.

Dr. Donald Jacob, of Louisville, left for Charlotte, N. C., for a two weeks' stay.

Dr. Frank J. Kiefer, of Louisville, who was sick at Norton's Infirmary, was removed to his home and is doing nicely.

Dr. W. F. Blackford, of Louisville, has returned from a week's stay in Nashville and Columbia, Tenn.

Dr. Nathan R. Simmons, health officer, Lexington, is ill at his home with rheumatism.

Dr. Adolph O. Pfingst, of Louisville, arrived home September 17, after spending the summer in Europe.

Dr. Louis Frank, of Louisville, has returned home after a motor trip to New York and Atlantic City.

Dr. James Bullitt, of Alabama, has returned home from a visit to relatives in Louisville.

Dr. J. W. Irwin, of Louisville, has returned from a six weeks' tour through Europe.

Dr. Harvey B. Scott, of Louisville, left for a three weeks' trip to Detroit, New York and Atlantic City.

Dr. Henry Orendorf, of Louisville, visited relatives in Lexington.

Dr. Charles P. Cook, of New Albany, has gone to Baltimore to take a special course of study in the Johns Hopkins University.

Dr. Michael Casper, of Louisville, has returned home after a few weeks' stay at Grayson Springs.

Dr. Harris Kelly, of Louisville, has gone to Colorado Springs, Colo., for a rest of a few months. Dr. Kelly formerly was Coroner of Jefferson county.

MARRIAGES.

William Elrod, M. D., to Miss Grace Anderson, both of Somerset, Ky., September 7.

Leo Kearns, M. D., to Miss Elsie A. Gast, both of Louisville, September 20.

Hugh C. Nichols, M. D., to Miss Anna Dick, both of Louisville, September 7.

DEATHS.

Starling Loving, M. D., of Columbus, at his home, September 2, from infirmities of old age; aged 82.

Thomas Dwigth, M. D., of Boston, at his home in Nahant, Mass., September 8; aged 67.

Arthur Kipp, M. D., of Louisville, at his home, September 10, from diabetes; aged 29.

G. W. West, M. D., of Winchester, Ky., at his home; aged 71.

CALENDAR.

- JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton," October 2, 9, 16, 23 and 30.
- DR. V. E. SIMPSONPresident
 DR. A. L. PARSONS{ Vice Presidents
 DR. W. B. GOSSETT{
 DR. H. N. LEAVELLTreasurer
 DR. DUNNING S. WILSON.....Secretary
- LOUISVILLE CLINICAL SOCIETY; meets at the Galt House, October 3, 17 and 31.
- DR. J. A. FLEXNER.....President
 DR. ARGUS D. WILLMOTH.....Treasurer
 DR. G. B. JENKINS.....Vice-President
 DR. H. J. FARBACHSecretary
- LOUISVILLE SOCIETY OF MEDICINE; meets at the Tavern Club, October 5.
- DR. EDW. B. RICHEY.....President
 DR. E. L. HENDERSONVice-President
 DR. RICHARD T. YOE.....Treasurer
 DR. W. O. GREEN.....Secretary
- LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club, October 19.
- DR. C. G. HOFFMAN.....President
 DR. VERNON ROBINS.....Vice-President
 DR. CHAS. W. HIBBITT.....Treasurer
 DR. A. C. L. PERCEFULL.....Secretary
- MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, October 6.
- DR. J. GARLAND SHERRILL.....President
 DR. J. ROWAN MORRISON.....Vice-President
 DR. FRANK C. SIMPSON.....Secretary and Treasurer
- WEST END MEDICAL SOCIETY; meets at the Old Inn, October 10.
- DR. I. A. ARNOLD.....President
 DR. H. L. READ.....Vice-President
 DR. JOHN K. FREEMAN.....Secretary and Treasurer
- CENTRAL KENTUCKY MEDICAL SOCIETY; meets in Lancaster, Ky., October 19, 1911.
- CENTRAL ECLECTIC MEDICAL ASSOCIATION; meets in Richmond, Ky., November 14, 1911.
- MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., December 14, 1911.
- EAGLE VALLEY MEDICAL SOCIETY; meets October 17.
- SOUTHWESTERN MEDICAL ASSOCIATION; meets in Clinton, October 10, 1911.
- KENTUCKY ECLECTIC MEDICAL ASSOCIATION; meets in Louisville, May, 1912.
- NATIONAL ECLECTIC MEDICAL ASSOCIATION; meets in Washington, D. C., June 18-21, 1912.
- KENTUCKY STATE MEDICAL ASSOCIATION; meets in Paducah, Ky., October 24, 25 and 26, 1911.
- KENTUCKY STATE HOMEOPATHIC SOCIETY; meets in Lexington, Ky., May, 1912.
- KENTUCKY STATE ASSOCIATION OF RAILWAY SURGEONS; meets in Lexington, Ky., May 8, 9 and 10, 1912.
- AMERICAN MEDICAL ASSOCIATION; meets in Atlantic City, 1912.
- AMERICAN ASSOCIATION OF CLINICAL RESEARCH; meets in Boston, Mass., September 27 and 28, 1911.
- AMERICAN PROCTOLOGIC SOCIETY; meets in Atlantic City, N. J., 1912. (Date later.)

THE American Practitioner and News.

"SEC TENCU PENNA."

"Certainly it is exceedingly rare for an author to find that he may say as much to say in the fewest possible words, or his reader is sure to skip them; and in the present case the words, or his reader will certainly misunderstand them. Generally, also, a statement that may be told in a plain way, and we want downright facts, present themselves in plain dress." —RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF

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Original Articles

INDICATIONS AND TECHNIQUE OF CEREBRAL DECOMPRESSION.*

E. S. Allen, M. D.,
Louisville, Ky.

The dominating factor in cerebral surgery is the effect of compression upon brain tissue. While any other tissue may be compressed with comparative impunity, nerve tissue is compressed only at the cost of immediate loss of function, with slow restoration if pressure be relieved, and atrophy without regeneration if pressure be not relieved. Its high degree of differentiation makes it easy prey to mechanical trauma, and its injury is frequently attended by early and easily recognized symptoms.

Local pressure and death of other tissue may pass unnoticed, but nerve fiber gives unmistakable sign and gives it regularly. The compression of nerve tissue, except in certain areas of the brain, will produce definite symptoms.

A great many of the lesions which affect the brain, and especially those which have a surgical bearing, do so by re-

*Written for THE JOURNAL.

ducing the available space inside the skull. The symptoms of hemorrhage, tumor, or what-not, depend, in the main, upon the compression which these various lesions exert directly upon the brain.

The principal arteries of the brain, the areas which they supply, and their course through the brain, ought to be accurately known, in that thrombosis, embolism, or pressure might be recognized, or accidental ligations avoided.

The veins of the brain are thin walls, have no valves, are distensible, and possess a large capacity. On the other hand, the sinuses are not distensible, neither are they easily compressed except under general compression. The brain outflow is abundantly provided for. If the exits are blocked, there exists numerous byways of escape, as the posterior condyloid, orbital, and emissary veins of the diploe. The effects of cerebral compression are, to a large extent, from venous obstruction; so, the venous circulation, from a pathological point of view, is, in many respects, more important than the arterial.

The cerebro-spinal fluid is present in the cranium normally in small quantities. Although the sub-arachnoid space containing the fluid is small over the cortex, where the brain lies close to the dura, yet at the base it opens out into reservoirs, which seem to be of large size. These, while not normally containing any large amount of cerebro-spinal fluid, have at least a large capacity. This basal collection of fluid is supposed to act as a water-shed, and prevents undue forcing of the brain on the underlying bone.

The flow of the cerebro-spinal fluid when collected in the ventricles is outward through the foramina of Monroe, Magendie and Luschka, and through other small passages into the various cisterns and the general sub-arachnoid space, as well as of the spinal canal and of the brain. From here it enters, directly, the meningeal veins, but most freely through the Pacchionian bodies, and so into the sinuses and diploe veins. In this manner it completes its cycle and returns to the vascular circulation.

The direct passage of the cerebro-spinal fluid into the veins is one of the best established facts in the physiology

of cerebral circulation, and one of the most important in the question of brain compression.

Researches have shown that that cerebro-spinal fluid is not the same as the lymph of other organs. It is only under conditions of venous obstruction that the fluid leaves the skull by the lymphatics at all, and then only slowly and in a small amount. In conditions under which available cranial space is reduced, especially when this occurs suddenly, it is probably the cerebro-spinal fluid which affords compensation both by its quick and easy distribution over a large space, and by its freedom of escape into the cerebral veins, sinuses, and spinal canal. The cerebro-spinal fluid regulates the respiratory variations in volume of the brain; in short, under normal conditions, it is a ready servant, present when needed and absent when of no service. It is well to always bear in mind that the contents of the cranial box consists of brain matter with its covering, the blood-vessels, the blood, and the cerebro-spinal fluid. Brain matter is incompressible, the cranium unyielding. Room inside the skull is gained only by displacement of the other constituents.

History tells us that Hippocrates, and probably his predecessors, were familiar with cerebral compression. Hippocrates, in discussing injuries of the head, says, in fracture of the skull-bone, to perforate the skull at once after the injury, down to the meninges, and remove a piece of the bone by sawing it nearly through and leaving it to slough away, wishing to loosen the bones of the head and give greater room to the brain, which he conceived to be in a state of congestion and swelling, brought about by vibration communicated direct to the brain by contusion. He also advocated perforation of the skull in fractures without depression, to remove tension and furnish an outlet to the collection within, as he says, "whether liquid or gaseous." Cæsus, a contemporary, waited for the bad effects of cerebral compression to come on and then operate.

Though trephining was performed 300 years B. C. for the relief of cerebral compression, it was not until the beginning of the Eighteenth Century that the pathology and its relation to clinical phenomena began to be understood. Galen, Verduc and Boerhaave, all report having observed focal symptoms from pressure upon certain areas of the brain.

In the 18th Century the great Von Haller began the study of cerebral compression upon the basis of animal experimentation, demonstrating that slight compression caused a dog to suffer pain; upon greater compression the dog fell asleep.

Astley Cooper, in 1837, pressing upon the brain through a trephine hole, in a dog, noticed first pain and irritative symptoms, then slowing of the pulse and coma.

Magendie, in 1837, by pressing upon the sac of a spina-bifida, noticed bulging of the fontanelle, and demonstrated that the ventricles were filled with fluid. Up until this time it was the belief that they were filled with air. Such men as Littre, Haller and Burdach were of this opinion. Leyden was the first, in 1866, to open up the field of cerebral compression from the experimental side.

In studying brain pathology, it is well to bear in mind that life is dependent upon the functioning of three vital centers located in the floor of the fourth ventricle; the vasomotor, vagus and respiratory. The vasomotor is constantly sending out influences which give tone to the vessels of the body. Its stimulation results in constriction; its depression in dilatation. It is in control of blood pressure through its effect on the arteries. The vagus being stimulated slows the heart beat and slightly lowers blood pressure, and is a chief agent in the regulation of the rate of the heart. The respiratory center acts reflexly, and is augmented by the accumulation of carbon-dioxid.

Leyden, by injecting fluid under pressure, measured in m.m. of mercury, noticed that sudden compression phenomena manifested themselves. 50 m.m. of mercury caused pain and restlessness; 120 caused convulsions; 130, unconsciousness. Dilation of the pupils was usually a late symptom, slowing of the pulse frequently occurred at 50 m.m. pressure, was constant at 75, and increased in slowness up to 150; after this it became irregular. At 250 it became rapid, more or less suddenly. Leyden also demonstrated that slowing of the pulse was due to stimulation of the vagus. He severed the vagus and the pulse remained unaltered.

Von Bergman states that the general effect of space diminution is a rise in blood tension; that is, in the pressure under which the cerebro-spinal fluid stands. This results from

the slowing of the circulation in the brain and its membranes. As the pressure by fluid is general, as soon as the pressure surpasses, even by a little, the pressure in the capillaries, the latter must be compressed, which allows less blood to go through these parts. Therefore, Von Bergman concludes that cerebral compression own as their immediate cause, capillary anemia; not as a result of direct mechanical pressure on nerve elements, but as a result of cerebro-spinal fluid tension, itself the result of a space diminution. The anemia acts as a stimulus to the vasomotor center, causing a rise in general blood pressure; also, to the vagus center, causing a slowing of the pulse. Von Bergman calls attention to the fact that this compression anemia, if not too sudden, affects the various parts of the brain in a definite order, so that one may be already paralyzed while another is merely stimulated. For instance, there may be paralysis of the cortex when the medullary centers are stimulated.

Intra-vascular tension is a very accurate index to intracranial pressure. As the intra-vascular pressure rises, we can very well be positive that intra-cranial tension is increasing. They rise almost parallel until there is a beginning starvation of the medullary centers. Then we have an irregular rise and fall of intra-vascular tension as there is intermittent feeding of the medullary centers, the splanchnic vessels struggling to keep up vascular tension. There is, so to speak, a life and death struggle going on between the intra-cranial compression force and the vasomotor centers, the latter trying to keep up blood to the center in the medulla. When pressure is pushed above the limit to which the vasomotor centers are able to respond, there is a rapid fall in vascular tension. When undulating pressure curves begin to manifest themselves in the tension, the vasomotor center is beginning to be exhausted, blood pressure is no longer supported, the medulla remains empty, and the vital functions regulated by the medulla cease activity.

Under compression the obstruction to the circulation begins at the venous side and extends backward to the arterial side. Kocher states that "as soon as the available space in the skull is reduced, there occurs a displacement of normal contents." The brain itself being incompressible, it is the least able to make room. This it does by receding toward

the spinal canal, so that the medulla cerebellum is compressed into the foramen magnum, and may actually cork it up. Much greater space is procured by recession of the cerebro-spinal fluid and the venous blood. By means of this expression of fluid and venous blood, sufficient space is gained to compensate for the intra-cranial tension for a considerable time. So long as the veins, in spite of their compression, can carry off the blood, no material symptoms of pressure can appear. The only expression of this partial stagnation is papillary oedema, which is a manifestation of compensation. Increase the compression and the safety exits become cut off, and there develops a venous stagnation, circulation becomes difficult in capillary districts, and symptoms of disturbed cerebrum manifest themselves, such as headache, dizziness, pain in the limbs, restlessness, ringing in the ears, disturbed sensoria, and delirium in dreams. Extend the pressure further, so as to involve the capillary and finer arteriole areas, and you get an anemia of the brain, the capillaries being completely emptied of arterial blood, which brings forth the symptoms of paralysis, monoplegia, haemoplegia, aphasia, haemianopsia, according to the situation of the pressure. A complete anemia of the cerebral cortex may be borne for a considerable time without danger to life, while a persistent anemia of the bulbar centers must inevitably lead to death through paralysis of the vasomotor center. Death is due to paralysis of the vasomotor center and not of the bulbar centers primarily.

Realizing that cerebral compression results, ultimately in medullary anemia, and medullary anemia in vasomotor paralysis, and vasomotor paralysis in bulbar starvation with cardiac and respiratory paralysis, and that our principal guide to this intra-cranial pathology is arterial tension as recorded by the manometer, then I believe the chief indication for decompression must be when the tension reading reveals the fact that the struggle between the intra-cranial compressing force and the vasomotor center is becoming a life and death effort, and to interfere when the vasomotor strength is high and not wait until the compressing force is victorious and the arterial tension is dropping or undulating.

In dealing with fracture of the skull we often have to differentiate between the management of the fracture itself

and its complication and as intra-cranial tension is a complication of fracture—it is unnecessary for me to go into the management of the various fractures of the cranium—and their many complications—decompression being for the purpose of relieving tension in the skull and anemia of the vital centres. Practically all of the symptoms calling for decompression manifest themselves by high arterial tension. The higher the tension the greater the brain anemia and the more urgent is the relief of pressure.

Progressive rise in tension in the circulating blood due to constriction of the splanchnic field oftentimes does not continue on the exact level to which it has been forced. It may fluctuate above or below this level with a definite periodicity—hence the rythmic respiration of Cheyne-Stokes—during the period of fall, anemia results and respiration fails, when arterial pressure rises again the medulla is resupplied with blood and respiration is resumed. Finally a time comes when a regulatory respiration is no longer efficient and then from an increase in pressure or vasomotor fatigue.

The arterial pressure drops permanently below the level of the pressure exerted on the medulla, medullary anemia results because of vasomotor exhaustion, then there is respiratory failure. The heart keeps beating as an isolated organ uncontrolled by vagus or vasomotor activity until the pressure falls to zero, when it ceases through asphyxiation. As it is seen that compression of the brain can only take place at the expense of emptying of certain blood vessels, interference with the circulation may be confined to a more or less constricted field or be generalized.

Kocher has endeavored to subdivide compression into four stages, viz:

First—Is when the circulation is not seriously compromised, for by the escape of cerebro-spinal fluid and narrowing of the venous channels accommodation is made with nothing more than a local venous congestion and no more prominent symptoms than headache and mental dullness, for there is only slight interference with the circulation of the brain as a whole.

Second—The next stage is beginning failure of circulatory compensation enough venous congestion to lessen the capillary flow over a considerable area of the brain, with such

symptoms as headache, vertigo, restlessness, disturbed sensorium, with excitement and delirium, and unnatural sleep. The face becomes more or less cyanotic, veins of the eyelids dilated and distended, and a tortuosity of the veins radiating toward the optic papilla. The first indication of embarrassment of medullary circulation is a slowing of the pulse and slight rise in arterial tension.

Third stage is that of wide spread capillary anemia brought about by increase intra-cranial tension, here it is that vasomotor assistance manifests itself by splanchnic constriction, causing rise in blood tension endeavoring to feed the medullary centres. Here it is that the patient becomes irritable or comatose as the tension rises or falls. When tension is high the patient is restless, when exhaustion of the vasomotor centres is being manifested there is a lapsing into a state of coma, which brings us to the fourth stage in which there is a beginning failure of vasomotor compensation. Tension is falling, there is an intermittent feeding of the medullary centres, hence an irregular heart, marked respiratory efforts, coma, rapid pulse, the vagus giving out, muscular relaxation, and respiratory paralysis.

So by keeping in the mind's eye the stages of compression and the vascular changes that are taking place as the manometer registers the variations in vascular tension, one can judge when the medullary centres are beginning to be embarrassed, and is in a position to know just how long he can depend on vascular and cerebro-spinal fluid compensation. To sum it all up the indication for cerebral decompression in fracture of the skull (except depressions) depend upon the degree of arterial tension.

TECHNIC.

The technic is well established. The routine aseptic preparation and precaution, outlining operation area, tourniquet, osteoplastic flap or muscle splitting operation. Operate as near the site of the fracture as possible when focal symptoms point to it, otherwise in the lower temporal region, for here the fractures radiating toward the base traverse this region and here you are in a better position to deal with branches of the middle meningeal artery, the one frequently causing trouble.

THE OPTOMETRY QUESTION. ITS RELATION TO
THE GENERAL PROFESSION AND PUBLIC
HEALTH.*

GAYLORD C. HALL, M. D.,
Louisville, Ky.

The attention of the profession, particularly in the State of Kentucky, is called to the fact that at the coming session of the Legislature certain refracting opticians, calling themselves optometrists, are going to attempt the passage of an optometry law which gives these men a board of optometry similar to the board of pharmacy or the board of dental examiners.

The functions of this board will be chiefly to issue certificates, backed by the Commonwealth, that the holders of such certificates are competent to do refraction and prescribe glasses for such errors.

Such legislation would be prejudicial to the health of the general public and the ultimate object aimed at would be a violation of the medical practice act and therefore prejudicial to the medical profession, for such legislation is but a covert attempt upon the part of these men to invade the field of the medical practice as relates to the eye without any educational requirement or without undergoing an examination in medicine.

This legislation is harmful, first, because the optician is not qualified to practice in the narrowest limits of the field to which he directs his attention, namely refraction.

It is a matter of common knowledge that always in children, and in the vast majority of adults, accurate refraction can be accomplished only by the employment of a cycloplegic and this is forbidden the optometrist on account of his lack of knowledge of *materia medica*.

When it is further considered that the eye is but a part of the human body and that many diseases of the general system show manifestations in the eye, or may even be first manifested in the eye itself; that there are in addition many diseases of the interior of the eye-ball, which if properly diagnosed early may be successfully cured, but which if al-

* Written for this Journal

lowed to continue any length of time result in irreparable damage to the eye sight.

When we further consider such diseases as albuminuric retinitis, diabetes, arterio-sclerosis, malignant tumors of the retina and the choroid, optic neuritis from cerebral growths, or pus in the accessory cavities of the nose, and when we know that such cases have gone to opticians with disastrous effects, both from the standpoint of the eye sight and in some cases life itself, we are surprised that any one should have the temerity to thus dally with human life.

Even if the optician would do as he says he does, send all cases of diseased eyes to a competent physician, we know that since it takes a knowledge of medicine to diagnose such conditions he is lacking in the very accomplishment which would enable him to carry out his promise.

It is furthermore a matter of knowledge among all men doing eye work that many unfortunates are given repeated change of glasses despite their rapidly failing vision until their patience, money or eye sight is exhausted and no attempt has ever been made to refer such cases to a competent physician.

If this were the whole case against the optometrists it seems sufficient to defeat any ambitions or aspirations which they might have but it is not all.

These men seek really to invade the field of treatment of diseases of the eye. Such a tendency is apparent in the questions asked by the various state boards of optometry, which are patterned after the usual questions asked on the medical boards.

It is therefore proper to inquire, if such questions are asked, how much preparation are they required to have in order to answer these. The usual course in optometry colleges is six weeks, some requiring a longer course. Columbia University made out a two years course, but this course has never been patronized to any extent.

Since the law could not be made to include those who are already in practice we say therefore that whatever plans they may have for the future, the great majority of the present day optometrists would be incompetent however honestly intended they might be.

I do not believe the optometrists can defend this imputa-

tion that they are attempting to invade the field of medicine, since any one who would take the trouble to read the *Optical Journal and Review* would be convinced of the truth of this assertion.

That the gentlemen are not sincere in their efforts is also attested by the fact that they are not willing to be called opticians and register as such but have coined a new word, "optometrist," to designate themselves.

This new and high sounding phrase is used simply for the purpose of deceiving the public as to their true character.

They also attach doctor to their name, or D. O. or doctor of Optometry and speak of their cases and patients.

They consider themselves even better qualified to handle cases of refraction than the ophthalmologists themselves and in fact in New York made a protest to the board of education that the eyes of the school children should be sent to the optometrists for the examination instead of to the regular qualified physician.

It has been the experience in those states having optometry laws, that while at first the board made some effort to exclude the worst type of traveling opticians, that ultimately they too were allowed to come in and that the board has been very feebly effective in restricting the worst class of spectacle vendors.

In view of these facts it is incumbent upon the medical profession, as guardians of the public health to vigorously oppose all such legislation which puts the State's stamp of approval upon these men.

As members of the medical profession and in the interest of the higher requirements which are being brought forward in all the states of the Union, we should resent this attempt to lower the dignity of the profession and hinder this great work by the attempt of these men to enter the field of medicine as regards the eye, with practically no standards whatever and no preliminary educational requirements.

The defeat of such a measure demands work. We are not attempting to put these men out of business. Their proper and legitimate field is the selling of glasses upon a doctor's prescription just as the druggist dispenses drugs in the same manner.

It should be the duty of every physician to see his legislator and senator and explain this plainly to him.

These men have a large and legitimate field of activity and one requiring considerable skill and mechanical ability. It is worthy of their best efforts so it is hard to conceive why they should seek to enter a field where they have little if any knowledge and are manifestly incompetent.

It is to restrict legislation which would put the stamp of approval of the State upon such incompetency that we should oppose in the interests of the public health.

It is not our intention to take away from these men the right to sell glasses to those who care for their services. We should rather instruct the people in the true status of affairs so that they will see clearly that only one who has a knowledge of medicine is competent to make a thorough and intelligent examination of the eyes.

To that end let all members of the profession pledge themselves to not only explain this matter to their representative in the legislature, but to assist in educating the public into the full merits of the case.

It will require considerable earnest work for these opticians are in earnest and we should be equally so in opposing them.

If the medical profession work as they should in this matter the result should not be in doubt since we have all the facts in the case upon our side.

To lay aside all the other facts Governor Deneen of Illinois epitomized the whole matter very well when he vetoed the optometry bill in that state when he said that since the use of a cycloplegic was necessary in most cases of refraction and opticians were denied the use of that, he could see no reason for granting the men the right to do a thing and withhold from them that which was necessary for its proper accomplishment.

THE OLD TIME DOCTOR AND SOME OF THE REASONS MODERN MEDICINE IS LOSING CAST.*

DONALD JACOB, M. D.,
Louisville, Ky.

In choosing a subject to read before this society I have selected, with considerable trepidation, a plea for the old time family doctor.

I have selected this with hesitation because I fear that my age as a practitioner, hardly fits me to offer the criticisms I wish to make; but believing the subject one of importance at the present time, and knowing of no one having written exactly as I wish, I offer this as my apology, if I fail to do the justice the article deserves.

It is quite a common expression to hear some physician state that we no longer, or seldom, have families whom we can count as our own exclusive patients. It can hardly be disputed that the doctor of today does not receive the amount of veneration that was accorded him years ago; and this is especially so in the larger cities.

We can not deny that these old timers often fought each other, sometimes bitterly, nor can we deny that the modern disputes usually arise from competitions chase after the elusive dollar.

We are a band, banded together to fight the ills of humanity; we, as a profession, are continually striving to accomplish good for our fellow man; but individually we lack the harmony that our profession really deserves.

This absence of respect, and this distrust for each other, has become instilled into the minds of the laity; making ourselves responsible to a large extent, for the very evils of which we complain.

Some may say, perhaps, that this is due to an evolution; an adjustment of medicine to meet the needs of modern times. but is it not rather an involution?

The laity do not appreciate the hardships of medicine, or have they any conception of the responsibilities and the stress placed upon the doctor's shoulders, nor do we enlighten them as we should.

* Read before the West End Medical Society.

I do not wish to be misunderstood in that I am taking a pessimistic stand, but that I hope for something better.

One of the unfortunate circumstances is that medicine is not, and can never be a fixed science, but rather an art; leaving us open to many differences of opinion, with its tendency towards adverse criticism.

We are uncharitable to some fellow practitioner who may be less well informed upon some given subject than ourselves, forgetting that possibly on some other point he might be our superior.

We overlook the fact that he also has sworn the Hippocratic oath, and whatever his sphere in life may be (providing he is sincere and at heart truly a physician) he is accomplishing some good, and is, namely, an important cog in life's machinery.

Before going further let us digress and view the picture of this doctor, one familiar to you all, but one that bears reviewing.

Let us leave out his struggles preparatory to college, his trials and efforts there, his graduation, and State examinations, and the hardships during his first years of practice (or the search for the same) and pass on to the time when he has made a success that most probably has been earned by hard effort, close application, and a fitness for the calling he has chosen.

A success that is due him because of his love for humanity, his regard for the sick and his desire to relieve suffering.

A success that can never be measured in dollars and cents. And it might be said right here, that no matter how much his collections may be, he has given far more than he receives. A calling that pays the smallest dividends upon the amount of capital furnished, of any in the world; and one that is truly a calling in all that the word implies.

A Profession that Calls for Responsibilities and Anxieties in Almost Every Case.

Responsibilities from the dissimilarity of diseases of the same name, responsibilities from the different constitutional characteristics of the various patients, and responsibilities from a medico-legal standpoint. Anxieties for the welfare of our patients, not so much from the benefit that might accrue

to us from a successful management of the case, as the interest we take in those whom we have learned to love from years of care and watchfulness; many of whom we may have attended in their advent into the world.

Anxieties because of the hopes or the grief of some loving family, who have placed their trust in our administrations to their sick ones, on whom so much might depend, some father or mother, husband or wife, on whose death a home might be broken. The possible death of some child that might leave a family desolate, and our anxieties as to whether or not our method of procedure has been the best that might have been adopted.

I am not trying to write a eulogy upon the profession, gentlemen, but that which I believe you will agree with me as a poor effort to paint real facts. I wish to state that I believe the physician's calling, and the average physician's acceptance of his duties, to be the most benevolent, humanitarian and christian of any in the world, not even barring the ministry.

The physician (and by that definition I mean the mass of them) does more to lighten the cares and uplift humanity than any one else, because we come in closer contact with their physical, mental and moral ailments.

There is hardly a day passes without a chance to give a helping hand, and I believe it is seldom withheld if within his power.

It is true that we are in error many times, but it is usually of the head, and seldom of the heart.

He goes all day long and often most or all of the night, he is deprived of the pleasures of his family to a large extent, he answers calls in the rain, the heat or the cold, for pay or for charity. He is met with love and also rebuffs, he faces danger, at times even physical as well as from contagion, he goes when he is well and when he is sick, oftentimes in even worse condition than many of his patients. He assumes grave responsibilities many times under trying circumstances.

I don't know a better ending of this picture than to recall to you the story of the well known portrait, entitled, "The Doctor." A physician who leaves home at night to attend a pauper child suffering from a severe attack of diphtheria,

and by his watchfulness and care saves its life; but while absent from home, his location unknown, his own child has an attack of malignant diphtheria and dies before he can be found.

This sums up, in a small way, what some of us are doing every day; this shows, I believe, that we are entitled to the love and esteem of the public, and the respect of each other.

I believe that you will agree with me that we do not receive the same today, as we did years ago, and I shall try to prove that a good part of it is due to our own attitude towards each other.

There has been gradually creeping into medicine a tendency towards commercialism, attended with its selfishness and the tendency to advertise. We have our county societies, our state societies, and our national society. We have State board examiners, separate and distinct; we have reciprocity between many of the states. One can not receive this reciprocity unless he is a member of them all. This is an attempt to get us together, a good idea, but there is still much left undone.

We hedge ourselves in, and are hedged in, by laws, which in themselves are needed for the public welfare and for our own regulation, but are we not overstepping the bounds of prudence in allowing too great a latitude in their interpretation.

Our laws seem to be so drawn that any ethical, professional man is securely cornered, but what protection do they offer when we attempt to prevent someone sharing the same privileges as ourselves, without having met the obligations required of us? We have recently seen this: The prosecution a bluff—the result—an advertisement.

The regular, the homeopath, the eclectic, and the osteopath, are all required to pass examinations showing their fitness and familiarity with their calling, but do our laws protect us from the rest? Ignorance of pathology and kindred knowledge plays no part with the practice of the psychic healer.

Then that so-called religious sect, any member of which may care for a disease, the very existence of which they deny, much less understand, and that by a method of sugges-

tion, when it is probable that a large per cent can not define the word psychology.

We have seen that our laws do not protect the public, or us, as they were so intended; but let us take a view from the other side, and I believe that we will find that this too liberal latitude in their interpretation is having a bearing upon ethics.

What I am about to say, gentlemen, is done with all due respect and difference; but I am going to be absolutely frank.

I mean to say that the zeal of our health boards is causing them to go too far; and certainly the methods they adopt are decidedly unethical; and if this fountain head of medicine (as we may call it), is not ethical in its dealings to the practitioner, how are we to be immune to its contagion?

I for one, feel that my graduation in medicine, and my permission from the State to practice, entitles me to the same professional courtesy from the health board, as I would expect from a brother practitioner.

When a case of contagion is reported, I believe the health office is overstepping its bounds, and certainly is not courteous in sending representatives to overlook the premises without first making an appointment with the physician in charge of the case, and meeting him there. The doctor in charge should be treated as a gentleman and as competent until found otherwise. It is not the law I object to, but the manner of carrying it out.

A case of tuberculosis is reported, a nurse is sent there without any attempt to meet the physician who has the case. She overlooks the surroundings and possibly judges as to the physician's ability—something a board of physicians have done years ago. A representative of the Tuberculosis Institute goes there, also without appointment, and may urge the patient to leave the care of the doctor in charge, without his advice or judgment being consulted. If this is ethics it does not fit the Golden Rule as I learned it.

If a physician is treating a case, and neighbors report that he has made an error in diagnosis, or is hiding a supposedly reportable contagion, I believe it is due him the courtesy of a consultation at the bedside, before he is forced to answer charges in court. If he is found guilty of trying

to evade just and necessary laws willfully, there is then plenty of time to prefer charges.

Which one of us but feels that it is a reflection upon our ability and our integrity that certificates of illness, for school children should have to be countersigned by the Health Office, and possibly the case inspected, for fear that we, intentionally or through ignorance, are abetting deception, and thereby depriving the child of an education.

Such treatment not only tends to diminish the lay opinion of us, but makes them look upon the health representatives as officers of the law, instead of professional gentlemen desirous of doing everything for their and the public's good.

I do not believe such treatment is willful intention; but it shows a drift in a wrong direction, and no time is better than the present to call attention to it.

More than enough cases among ourselves, of professional breach of ethics, could be recited than would make pleasant reading, but if this should act as a little leaven I shall be content.

Selected Articles

HYDATID MOLE. ITS RELATION TO CHORIO-EPI- THELIOMA AND CYSTIC DEGENERATION OF THE OVARIES. WITH REPORT OF TWO CASES COMPLICATED WITH ECLAMPSIA.

By HIRAM N. VINEBERG, M. D.,
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The subject of hydatid mole has received renewed interest within recent years by Marchand's epoch-making studies showing the close relation between hydatid mole and chorio-epithelioma. It is especially regarding this feature of hydatid moles, that the present communication will concern itself. In addition, advantage will be taken of the opportunity to report two cases with the very rare complication of genuine eclampsia. Further, the association of cystic degeneration of the ovaries with hydatid mole will be discussed, and a few words will be devoted to the method of emptying the uterus in hydatid molar pregnancy.

The physical characters of a hydatid mole are too well

known to call for description here. The finer histological formation of the vesicles has been exhaustively studied and described by Marchand and L. Frankel. Concisely stated, these observers have demonstrated that in the epithelia of the villi, we may distinguish two layers of cells, the inner Langhans cell strata, and the outer, syncytial layer. The Langhans layer proliferates deeply, in places, into the syncytial layer, and occasionally breaks through in certain places, and grows into the inter-villi spaces. These cells may also show degenerate changes, and they may then assume large, even enormous, dimensions, presenting several granules, and the protoplasm appears of a lighter color with transparent areas.

The syncytium may also undergo a powerful proliferation and amplification of its nuclear and protoplasmic substances. Frequently the proliferation is so great that contiguous syncytial masses adhere together, forming a garland-like figure. Adjacent, is to be seen a degenerative form, which expresses itself in vacuole formations, so that frequently the syncytium takes on the appearance of a sponge with large cells. These vacuole formations, according to Marchand, are caused by hydropic degeneration, and, according to v. Franque, by the separation of the mucus from the surface of the villi.

We have, therefore, in hydatid molar pregnancy, changes that consist chiefly of a more or less marked proliferation of the cell layer and of the syncytium, which, in part, especially in the syncytium, is attended with degenerative processes leading to hydropic formations in the central parts from insufficient nutrition.

The important desideratum is that the proliferated epithelia of the villi exercise a destructive influence upon the adjacent tissues. In the larger hydatids, the decidua undergoes almost complete destruction. The so-called syncytium wandering cells, which are to be seen also in normal pregnancy, are particularly numerous, and penetrate deeply into the muscular layer and may be found there in great numbers, weeks, even months, after the hydatid mole has been expelled. Not infrequently a few degenerated villi themselves proliferate into the muscular layer and are found in the lumen of the veins, where, according to Veit, they are passively deported by the blood stream, but according to other authors, grow into the vessels by active proliferation.

The musculature of the uterine wall, in places, is very much thinned by the action of the villi, so that, in spontaneous expulsion of the hydatid mole, or in artificial removal, serious haemorrhage may ensue, as in the cases described by Dorman, Gottschall and v. Franque, and others.

Rupture of the uterus may occur spontaneously during the progress of gestation, leading to alarming intraperitoneal haemorrhage, as in the cases reported by Wilton, v. Franque, Jarotsky-Waldeyer, Waldo, Voigt, and Neumann. Krieger reports a case of peritonitis following such a rupture.

These cases have been designated as destructive hydatid moles. Some of them are truly malignant in character, showing that chorio-epithelioma has already developed. (Cases reported by Voigt, Neumann, Solowij u. Krzyszkowski, and Gottschall.) Others, again, possess merely destructive qualities, without being malignant (cases reported, v. Franque, Waldo and others). Marchand states that these two varieties are to be distinguished by the latter never showing atypical new tissue formation. They exhibit only a simple hyperplastic proliferation of the chorionic villi, with strong penetrating features.

Several interesting questions arise in connection with this subject.

1. Does the ovum possess these tendencies of excessive proliferation of the chorionic villi before it reaches the uterus, or,

2. Does it acquire these only after it has reached the uterus from the diseased condition it meets there? We have, therefore, the ovular and decidual theories.

The decidual theory, as is well known, found its first sponsor in Virchow, who attributed the formation of hydatid mole to an inflamed condition of the endometrium, which exercised an irritative influence upon the chorionic villi leading to vesicular degeneration. Warm advocates of this theory are Veit and his pupil Schoorel, who state they have found an inflamed condition not only of the decidua basalis, but also of the decidua vera. They draw the conclusion, from the associated disease of the decidua vera, that the endometrium must have been diseased before the onset of pregnancy, and not caused by the irritation of the hydatid mole, as claimed by Schwab and Maslowsky.

The decidual theory has received support from the interesting experiments by Aichel. This investigator was enabled to bring about vesicular degeneration in the pregnant bitch by tearing apart some of the vessels between the placenta and the uterine wall. A further argument in favor of the decidual theory is the circumstance that the endometrium is generally found thickened and presenting degenerative and inflamed processes.

One of the strongest and clearest expositions of the ovular theory is furnished by Van der Hoeven, in an article in the *Archiv. f. Gyn.* Bd. 62, S. 316. Van der Hoeven made an exhaustive and very painstaking study of several normal placentae of various periods of pregnancy (two from the fourth week), and of ten hydatid moles, and four cases of chorioepithelioma. One by the hydatid moles was as early as the fourth week of pregnancy, and the remainder from the third, fourth, and fifth month of gestation.

What he has particularly observed in the hydatid mole, is the poor development of the chorionic villi and their absence at the site where they are normally present. In other words, he states that in the hydatid mole we have an ovum that has not the power to develop normal villi, and, likewise, has not the power to develop in the normal sites and at the normal period.

Another characteristic of the hydatid mole is the absence of the Nitabuch's fibrin layer, which forms the outer boundary of the ovum. The arguments in favor of the ovular theory, are, (1) one ovum may develop normally and the other may form a hydatid mole; (2) in many instances of hydatid mole there is not a trace of a foetus to be detected, showing that the degenerative process must have begun at a very early stage of pregnancy, at a time when the ovum receives but little from the uterus and is but little dependent upon it for its development.

If the non-adherence of the chorionic villi to the decidua reflexa, as occurs in hydatid mole, was due to some disease of the endometrium, then an expulsion of the ovum would take place, and not the formation of a hydatid mole. In addition to the non-adherence of the villi to the decidua reflexa for the development of a hydatid mole, there must be present an inherent tendency to abnormal growth. This tendency to

abnormal growth, Van der Hoeven holds as an essential feature of hydatid mole, and, according to him, it possesses this before it reaches the uterus, either through the influence of the sperma, or on account of its own inherent characteristics.

Hydatid mole may occur in the tubes, as in a case reported by Matwejew and Sykow. The ovary on the corresponding side contained four cysts, and these the authors looked upon as an aetiological factor.

It will be opportune now to refer to the association of cystic degeneration of the ovaries with hydatid molar pregnancy. This association has received considerable attention within recent years, and has been regarded by many as a support of the ovular theory. Palmer Findley, in his collection of 210 cases, could find only eight cases with cystic degeneration of the ovaries. E. Runge, on the other hand, in twenty-eight cases, found cystic degeneration of the ovaries in twelve cases. L. Frankel states that at least 100 cases have been placed on record. He describes their gross characters as follows: They are multilocular, consisting of a honey-combed system of cysts of the average size of a walnut, with the lining of the wall presenting a light brownish or yellowish color. The individual cysts are not held together, as in the case of the ordinary polycyst, by the firm, grayish abluginea, but each one projects on the surface of the ovary, presenting a bluish appearance on account of the thinness of its walls. The picture corresponds with that presented by cystic degeneration of the kidneys, which the cystic ovaries resemble in shape, size, and lobulation.

Frankel reports two instances in which he has observed these cysts undergo regression, after the termination of the hydatid molar pregnancy. He finds in the literature five other instances of such regression. But some of the cases do not appear to be convincing. For example, in one of Frankel's cases, no cystic enlargement of the ovaries was found under narcosis when the uterus was emptied of its hydatid mole, but a week later both ovaries were found to be the size of a goose egg. Three weeks still later, the ovaries were found again to be of normal size. Several cases operated upon, months, and in one instance, two years after the termination of the hydatid molar pregnancy, showing the cysts of the ovaries to be of the same size or much larger. In only one of the

four cases observed by the writer, had the ovaries developed into cysts, each the size of a closed fist. Still, it is well to bear in mind these observations, and, in the event of meeting with a case of hydatid mole with such a complication, it should not be taken off-hand as an indication of radical interference. If there are no evidences of the formation of a chorio-epithelioma, one could afford, in the light of these observations, to wait and watch the future behavior of the cystic ovaries.

Considerable study has been devoted to the microscopic appearances of these cystic ovaries. Stockel, Runge, and J. Jaffe, state that the walls of the individual cysts present a variously shaped layer of lutein cells, which penetrate, more or less extensively, into the connective tissue of the walls between the individual cysts.

L. Pick looks upon this excess of lutein cells as the cause of the hydatid degeneration of the chorionic villi, and further, that it may be the cause of the excessive proliferation of the trophoblasts, leading to the formation of the chorio-epithelioma. He admits, however, that the lutein cells are not found in excess in all cases either of hydatid mole or chorio-epithelioma, and that this condition can, therefore, account only for a certain proportion of the cases. In other cases he thinks the presence of the cysts exercise undue pressure upon the corpus luteum, thus interfering with its function of presiding over the normal development of the ovum.

Baumgart is of the opinion that the ovarian tumors cause disturbances in the circulation of the endometrium, and this in turn causes cystic degeneration of the ovum. Thus we see that the associated disease of the ovaries may be used also in support of the decidual theory. We are, therefore, still in the region of theory regarding the aetiology of hydatid molar pregnancy.

Nephritis and albuminaria and its attendant oedema are frequent complications of hydatid mole and occur in about 19 per cent. of the cases, according to the statistics of Dorland and Gerson. But the occurrence of eclampsia is very rare in true hydatid molar pregnancy, that is, in cases in which there is not a trace of a foetus to be found.

A fairly thorough search of the literature has disclosed only three cases. One reported by Hitschmann, in a woman

eighteen years of age, II para, in the fifth month; one by Kroemer in a patient thirty years of age, III para, in the fifth month; and one by Sitzenfrey in a patient twenty-two years of age, I para, in the sixth month of gestation.

It is singular with such a rarity of the complication, that the writer should have met with two cases within the past five years. Both were in primiparae. The first patient was twenty-five years of age and in the sixth month of pregnancy; the second was eighteen years of age, between the third and fourth months of gestation, in whom the eclamptic seizures developed a few hours after hysterectomy, for hydatid mole and double cystic ovaries. It was in this case that the removed uterus showed the presence of chorio-epithelioma.

The reasons assigned for the rarity of eclampsia, are: (1) hydatid mole is more frequently met with in multipara, while eclampsia is more often seen in primipara; (2) eclampsia is very rare in the early months of gestation, the period at which hydatid molar pregnancy is observed. For instance, in 342 cases of eclampsia observed by Schauta, not a single case had occurred as early as the fourth or fifth month. Fehling, in a collection of 516 cases, found only five cases as early as the fifth month, and according to Hitschmann, some of these cases are doubtful.

A further interest besides rarity attaches to these cases of eclampsia in hydatid molar pregnancy. They demonstrate with the accuracy of an experiment that eclampsia may occur without foetal metabolism.

The close relationship between hydatid mole and chorio-epithelioma was first established by Marchand in 1895. Prior to that, Saenger had described a malignant growth which he termed deciduoma malignum. At the present time Marchand's views are generally accepted.

The frequency with which hydatid mole is followed by chorio-epithelioma has been variously stated by different writers. For instance, Bumm in his text-book places it at 15 per cent., Palmer Findley at 16 per cent. On the other hand, in twenty cases observed at the Kiel Klinik, only two were followed by chorio-epithelioma. Kehrer followed up the history of fifty cases of hydatid mole and did not meet with a single instance of this complication. L. Frankel met with only one case in fifteen cases, whose subsequent history he

had observed. The writer has met with an unusually large number of cases with this complication within the past four years; of eight cases of hydatid mole that came under his notice during that time, three were attended or followed by chorio-epithelioma.

It is difficult to ascertain with any degree of accuracy the proportion of cases of hydatid mole that are followed by chorio-epithelioma, because not all cases of hydatid mole are reported. Chorio-epithelioma, on the other hand, being a comparatively newly-discovered disease, will generally find its way into the literature.

For these reasons the reverse relationship, the frequency with which chorio-epithelioma is preceded by hydatid mole, admits of a fairly accurate expression. This has been found by a recent collection of the reported cases to be in the neighborhood of 50 per cent. (Eiermann). The significance and importance of these statistics are obvious. Hydatid molar pregnancy can no longer be looked upon as the innocent affair it was considered in former years.

Have we any reliable means of determining in a given case of hydatid mole, whether it be of the benign or malignant variety? In other words, can we tell when we are dealing with a case whether it is going to be followed by chorio-epithelioma or not? The consensus of opinion of nearly all writers is that we cannot.

Van der Hoeven asserts that every case of hydatid mole has the inherent characters of malignancy, such as excessive proliferation, invasion of adjacent tissues, and metastatic formations, but that fortunately in the majority of cases, nature is able to take care of the products of such activity after the expulsion or removal of the hydatid mole. In a certain number of cases, however, for reasons unknown to us at the present time, the process goes on after the termination of the pregnancy leading to a growth with all the characters of malignancy.

This leads us to the treatment of hydatid molar pregnancy. From time immemorial it has been agreed that a hydatid mole should be removed, or its spontaneous expulsion favored, as soon as the diagnosis is established. But it is as to the method of removal that I would like to bespeak your attention.

We all know how unsatisfactory it is to empty a uterus

of a hydatid mole with a curette or placental force, even when aided with the fingers in the uterus. The procedure, in addition, is not devoid of risk from excessive haemorrhage or from perforating the uterus. Dorman reports a case of death from haemorrhage and shock. Similar cases are found in the literature. H. Freund relates three instances in which he had to do an abdominal Caesarean section, owing to profuse haemorrhage.

I was led by chance to a procedure which I deem of great value. One of my cases (Case I) was a primipara, pregnant about five months, suffering from eclampsia and comatose, with a tightly closed cervix. I was desirous of emptying the uterus as quickly as possible. I decided, therefore, to do a vaginal Caesarean section, although I was not aware I had to deal with a hydatid mole. I was enabled, thereby, to pass my entire hand into the uterus and shell out all the vesicles with such ease and precision, and with so slight a loss of blood, that I was greatly impressed with the advantage of the method in all cases of this abnormality. The patient made a rapid and satisfactory convalescence. I would consequently recommend it as the routine procedure in all cases of hydatid molar pregnancy. The superiority of the hand over any instrument in removing all the contained vesicles can only be fully appreciated by the actual experience. The further advantages of the hand are that we are enabled to palpate every portion of the interior of the uterus and may thus detect any malignant growth in its incipency. Further still, having had our hand in the uterus, we can make certain of removing every vestige of the vesicular formations, and, perhaps in this way do a good deal to prevent the subsequent development of chorio-epithelioma.

Should this claim appear chimerical, we are at least placing ourselves in a position to be able to detect the development of the malignant growth at its earliest manifestation. For, after such a thorough and certain emptying of the uterus of the vesicles, should any haemorrhage subsequently occur, I think one could safely assume that chorio-epithelioma had developed. Personally, I would not hesitate, as I have done in two of my cases, to make the diagnosis on that basis. There is one feature about the haemorrhage attending a chorio-epithelioma that is almost pathognomonic, and that is its

profuseness. In one of my cases (Case II) in which the haemorrhage recurred three weeks after the removal of the hydatid mole, when examining the patient, the blood poured out in such a large stream from the uterus that I was afraid the patient would bleed to death on the examining table. In another case, the patient while in the hospital awaiting the usual operating day, became so exsanguinated one night from sudden uterine haemorrhage that she had to be given an intravenous saline infusion. No other condition that I know of, certainly not the ordinary case of retained placental residue, will give rise to such alarming haemorrhage. Consequently, after having made certain of emptying the uterus thoroughly of all the vesicles, should profuse haemorrhage occur within a few days, weeks, or months, I would feel warranted in diagnosing chorio-epithelioma, and in proceeding with radical measures, without subjecting the patient to a curettage and submitting the scraped tissues to a microscopic examination, as is generally recommended. In so doing I would feel I was saving valuable time and probably protecting the patient from a considerable loss of blood. But more important still than these two desiderata, would, to my mind, be the conviction that the clinical evidence thus presented would be more reliable than that obtained by the pathologist. I have a vivid recollection of the sacrifice of one of my patients through the misleading character of the pathologist's report, which was to the effect that the scraped material showed evidences only of placental tissue, although I had already made a clinical diagnosis of chorio-epithelioma. The case has already been reported in full elsewhere.¹

This is not said in any spirit of carping criticism of the pathologist, but merely for the purpose of emphasizing the unreliability of the microscopic evidences obtained from the examination of the tissues removed by the curette. The only difference between ordinary placental residue and the growth known as chorio-epithelioma, is the manner in which the latter invades the musculature of the uterus. Now, if the curette should bring away only the growth that projects above the surface of the muscular layer, as would very likely be the case, there would be no criteria by which the pathologist could differentiate between the malignant growth and the ordinary placental residue. Holding these views, I cannot agree with

the advice given by some writers that every case of hydatid molar pregnancy should be curetted ten days after the termination of the pregnancy to ascertain whether chorio-epithelioma is forming.

How are we to proceed in the event of haemorrhage, of more or less severity, occurring in those cases that we ourselves have not attended, and, when we are not certain that all the products of the hydatid mole have been expelled or removed? If the haemorrhage be exceedingly profuse, corresponding in severity to that I described as occurring in two cases, I think we could safely assume the presence of a malignant growth. But if we wished to make more certain of our ground, the uterus could be dilated or the cervix incised so that we could explore the cavity with the finger. I deem the evidences to be obtained in this manner as very valuable, for the physical characters of chorio-epithelioma differ very markedly from those of placental residue. The chorio-epithelioma growth is sessile, harder to the touch than placental residue, and presents marked infiltration at the base. Frequently the finger will detect ulceration on the free surface, and the growth will then present a crater-like formation. In order to be more thorough in the collection of our data, the curette should be employed and the scraped tissue submitted to microscopic examination by a competent pathologist. The microscopic findings, if negative, should be weighed cautiously, bearing in mind their uncertainty from the nature of the condition.

It would seem to us from the foregoing, that it behooves us to look upon every case of hydatid molar pregnancy with suspicion; that, if there be no evidence of malignancy at the time of the pregnancy, the case ought to be watched carefully for months and even years afterwards (as cases have been reported as occurring even after three or four years), for any manifestation of the chorio-epithelioma. Most of the cases in the literature have occurred before the fourth month. In the writer's two cases, only three weeks elapsed between the emptying of the uterus and the development of the growth. The first symptom of such a growth is haemorrhage, which may be of most alarming proportions. But on the other hand, the bleeding may be moderate. In either event, no time

should be lost in investigating the case by all the means at our command.

We have learned that not all cases of chorio-epithelioma show an equal degree of malignancy. The literature contains not a few cases in which there were evidences of metastases, even in the vagina and probably in the liver and lungs, that recovered without operative interference (L. Pick, Langhans, Horrmann, v. Frangue, Noble, and others).

But as we have no means, up to the present time, of determining whether the growth will manifest weak or strong malignant character in the future, the only safe course to pursue, it would seem, would be to do a radical operation as soon as the presence of the growth is established.

Of the writer's three cases following hydatid mole, two were operated upon four years ago; one patient is in good health at the present time; the other was lost sight of shortly after leaving the hospital, when she was fully convalesced. The third patient (Case IV) was operated upon five months ago. A couple of weeks after her discharge from the hospital, a small bleeding growth appeared in the vaginal scar. Suspecting a recurrence I excised it, but the pathologist could not detect any evidence of chorio-epithelioma in it. I saw her yesterday, May 8, 1911. She was in excellent health and the vaginal vault was smooth and perfectly healed.

Case I. Hydatid mole without foetus. Eclampsia. Recovery.

G. S., aged twenty-five years, married six months. Nullipara. Admitted into Mt. Sinai Hospital August 14, 1906. Had not menstruated since marriage. Pregnancy seemed to be progressing normally, until three weeks before, when she noticed that her hands and feet had swollen considerably and that her urine was diminished in quantity. On the evening prior to admission, she was seized with severe headache, and a few hours later had a convulsion. She had seven more convulsions during the night. When she reached the hospital at 9 a. m. next day she was comatose, could not be roused, had divergent strabismus, and all the extremities were very much swollen from oedema. The urine became almost solid upon boiling and on the addition of nitric acid, and contained numerous hyaline and granular casts. The uterus

reached to the upper border of the umbilicus, the vaginal portion was of normal size, and the os tightly closed. There had been no bleeding or staining.

Desirous of emptying the uterus as rapidly as possible, I incised the cervix, pushing up the bladder as I did so, until I could enter the uterus with my entire hand. I found it filled with the characteristic products of a hydatid mole, and was enabled to empty the uterus rapidly and easily of all the vesicles with comparatively little loss of blood. Exploration of the uterine cavity with the hand afterwards detected nothing abnormal. No trace of a foetus was found. The patient's condition showed improvement within the next twelve hours and she had no further convulsions, consciousness was restored, and the nephritic condition rapidly improved. On the fifth day of the convalescence she developed signs of pleuritic effusion on the left side. Later on she was transferred to the medical service, where she completely recovered from her pleurisy.

January 14, 1907. Patient called to see me. She was in good health, urine normal, uterus well inverted. May 15, 1911. Patient called at my request. Since the above she has had two miscarriages, one at four months, two years ago, and the second one at two months, two months ago. She has otherwise been quite well. All that I could find locally was a rather deep tear in the anterior lip of the cervix. Her urine was normal.

Case II. Hydatid mole followed by chorio-epithelioma. Hysterectomy. Recovery.²

Mrs. E. R., aged forty-seven years, married twenty-six years. VIII para. Youngest child, seven years, one miscarriage sixteen years ago.

September 26, 1906. Last menses, November 10th, slight bloody flow. Bleeding persisted until January 9, 1907, when uterus was emptied by me of a hydatid mole, which distended the uterus to midway between umbilicus and ensiform cartilage. There was no trace of a foetus. For some weeks prior to this, the patient suffered from dyspnoea, marked general oedema, and albuminuria with hyaline and granular casts. Prompt and rapid improvement of all symptoms occurred after the emptying of the uterus.

February 1, 1907. Sudden profuse uterine haemorrhage, necessitating packing of the vagina. Two days later another attack of profuse bleeding causing marked exsanguination. Clinical diagnosis, chorio-epithelioma.

February 14th. Abdominal panhysterectomy. Satisfactory convalescence.

Pathological report, chorio-epithelioma of the uterus, ovaries not cystic. Marked proliferation of the lutein cells, many of which contain large granules of yellowish pigment.

May 8, 1911. Heard from patient. She is perfectly well, and has good color. Urine normal.

Case III. Hydatid mole followed by chorio-epithelioma. Hysterectomy. Recovery (abstract³).

Mrs. G. H., aged forty-seven years, married twenty-eight years. II para. Youngest child, eight years. Two miscarriages, last one nine years ago.

February 25, 1907. Cured by Dr. F. Krug for hydatid mole, which distended the uterus to midway of umbilicus. There was no trace of a foetus. For ten days prior to this she had more or less uterine bleeding which set in after an amenorrhoea of six weeks. Prompt recovery after curettage, and discharged from hospital March 3rd.

Re-admitted March 28, 1907, for metrorrhagia, which set in a day or two after her leaving the hospital. The uterus was found to be enlarged to the size of the organ at the sixth week of pregnancy. Clinical diagnosis, chorio-epithelioma.

March 30th, vaginal hysterectomy by the writer. Rapid convalescence.

Pathological report: Specimen consists of uterus and adnexa. Uterus enlarged, 11 x 9.5 x 5 cm. Wall measures 17-30 mm. in thickness. Occupying the posterior wall, and extending downwards from the fundus for a distance of 48 mm., there is a growth which fills up and slightly distends the uterine cavity. On either side the growth extends to the openings of the Fallopian tubes, elevating the mucous membrane and causing it to slope downwards to the opening. The tumor is sessile. Its edges are overhanging, except at the upper half. The surface of the tumor is irregular and ulcerated, and microscopic section shows it to be chorio-epithelioma malignum.

Case IV. Hydatid mole. Chorio-epithelioma. Double ovarian cysts. Hysterectomy. Post partum eclampsia. Recovery.

Mrs. S. S. was referred to me by her physician, Dr. J. S. Diamond. Aged eighteen years; married fifteen months; menses at fourteen years, four weekly type; duration three to four days; amount moderate, not with any great pain.

Six months after marriage she went two weeks overdue and then began to bleed. She was supposed to have a miscarriage and was curetted. Her menses were regular after this for four months and then ceased for two months, when she began to bleed irregularly, at first scantily and later rather profusely. When she consulted me the bleeding had been going on for about two months. She was pale, sallow, and looked very ill. The uterus reached up to the umbilicus and was rather tense. The cervix was closed. Behind the uterus lay two irregularly shaped cystic masses, each about the size of a closed fist. The urine contained albumin and numerous hyaline and granular casts. There was no oedema. The diagnosis was made of an abnormal pregnancy with double ovarian cysts.

November 22nd, operation. Finding, on attempting to empty the uterus, that it contained a hydatid mole, and in view of her having both ovaries cystic, I decided to perform a panhysterectomy, which I did, removing the cervix also. The operation offered no unusual difficulties and consumed about an hour. The patient stood it very well. At five o'clock the next morning, twelve hours after the operation, the patient was seized with a severe convulsion, lasting about ten minutes. This was followed by coma of twenty minutes. From this hour until 11 a.m., she had, in all, seven convulsions, each followed by coma of longer or shorter duration. The urine was very scanty, was loaded with albumin, and showed very numerous granular and hyaline casts. Her temperature had risen to 104° and her pulse was 180, very small and soft.

The patient was subjected to the usual treatment for eclampsia. In addition, phlebotomy was done. About sixteen ounces of blood were withdrawn, and colon irrigations with saline solution were given. She showed signs of improvement towards the evening of the same day when the tem-

perature fell to normal, although the pulse still remained very high (140-160). From this on improvement was steady, and on November 30th, eight days after the operation, the urine was almost normal, containing merely a trace of albumin and being free of casts.

The removed uterus on microscopic examination showed quite an area of chorio-epithelioma on the posterior wall near the fundus. The ovaries were cystic throughout and showed little or no stroma. There was no excess of lutein cells.

December 12th, patient discharged from the hospital as cured.

January 15, 1911. She was again referred to me by her physician on account of bleeding from the vagina. I found a small vascular growth in the center of the vascular scar, and dotted over the posterior wall of the vagina were small flat papules about the size of a split pea and of a bluish red color. I suspected a recurrence and had her re-admitted to the hospital. On January 19th, I excised the growth with the Pacquelin and also cauterized the papulae on the vaginal wall. The removed growth showed no evidences of chorio-epithelioma. It was made up only of connective tissue with blood cells. The patient left the hospital January 25th.

May 8, 1911. Patient called at my request. She was in good health, her color had become good, and she had gained in weight. There had been no recurrence of the bleeding. The vaginal wound was healed and the entire vault was smooth and normal in appearance. The vaginal walls, likewise, presented nothing abnormal.

The case presents several points of interest:

1. The early age of the development of the hydatid mole.
2. The cystic degeneration of both ovaries with no excess of lutein cells.
3. The associate development of chorio-epithelioma.
4. The complication of eclampsia, so to speak, post partum (after the hysterectomy), in hydatid molar pregnancy with no trace of a foetus.—*The Canadian Medical Association Journal*, October, 1911.

1. "The Surgical Treatment of Puerperal Septic Infection." *Surgery, Gyn. and Obst.*, July, 1910, pp. 30-46, Case III.

2. *Amer. Journ. Obst.*, Vol. CV, No. 6.

3. *Amer. Journ. Obst.*, Vol. CV, No. 6.

Recent Progress.

DEALING WITH THE SAC IN THE RADICAL CURE OF INGUINAL AND FEMORAL HERNIA.

There is reason to believe, says H. McClure Young, St. Louis (*Interstate Medical Journal*, October), that the ordinary indirect inguinal hernia is always to that extent congenital that a sac lined with peritoneum persists after the descent of the testicle is accomplished, and that this sac awaits only some extraordinary exertion or some relaxed condition of the parts to receive a loop of bowel from above. In dealing with hernia, therefore, the obliteration of this sac must always be insisted upon as the one all important step in the operation. From this standpoint Young discusses the various operations for inguinal hernia, but says that none so logically answers the necessities of the condition as the one devised by Lexer, which he describes as follows:—The skin and aponeurosis of the external oblique are divided in the usual way and the sac freed as far up as the internal ring, where it is ligated securely as high up as possible, but not yet removed. A pair of slightly curved forceps is now passed under the free margin of the conjoined tendon, insinuating them gently upward between the muscle and peritoneum for a distance of about two inches. Here the point of the forceps is pushed forward through the muscle. Into the jaws of this forceps is now introduced the jaws of a second pair of similar forceps, locking them securely and withdrawing the first pair, thus conducting the second pair along the route of the first down toward the internal ring. The loose end of the sac is now clasped in the jaws of the forceps which have been thus placed, and the forceps withdrawn. This brings the sac out through the muscular tissue at a point about two inches above the internal ring. It is pulled down until the neck of the sac or point of original ligature comes to lie firmly against the posterior surface of the muscle at this point, a thing which requires no great amount of force. Two or three sutures now anchor the sac to the muscle and the redundant portion of the sac is cut away. The Bassini operation may now be performed or any other procedure resorted to which the requirements of the case may seem to

indicate. Should the surgeon wish to avoid drawing the sac through the muscular tissue, he may proceed as follows: Having ligated the sac, he leaves the end of his ligatures long and threads each upon a needle. He then removes the sac, and passes an additional suture through the neck of the sac and again threads each end upon a needle. He now inserts a finger under the free margin of the conjoined tendon and dissects it bluntly from the peritoneum for a distance of about two inches, at which point he passes his needles through the muscular tissue from within outward in such manner that his knots when tied shall lie in a direction parallel with the muscular fibres and about a centimeter and a half apart. The tying of these knots now draws the neck of the sac firmly up against the posterior surface of the muscle. The author says that when surgeons in general understand more perfectly the object aimed at and always to be kept in mind in such operations, the old practice of leaving the neck of the sac at the mouth of the hernial opening to invite recurrence will become obsolete.

DIABETES MELLITUS.

A. J. Hodgson, Waukesha, Wis. (*Journal A. M. A.*, October 7), says that a careful study of the habits of a large number of diabetics convinces him that one of the most fertile causes of diabetes mellitus is a long-continued toxemia due to gross errors in eating. Of course there may be other causes, but this he considers most important. In cases of so-called cure of diabetes the patient must not return to his former habits of diet, as continued care in eating will be essential to his health. While he could give case histories of more than 1,100 diabetics, only one is reported as typical. He believes in a general way in the futility of drugs in this disease and trusts mainly to dieting and hygienic measures. The quantity as well as the kind of food must be restricted and insistence on proper mastication is essential. Constipation can be overcome by the use of castor oil and olive oil, or a mixture of these with glycerin. In the first place, carbohydrates must be restricted to the smallest possible safe amount and starches should be gradually added in one form rather than in several, until the point of tolerance

has been reached. Any articles of food found difficult of digestion, even in health, though their starch content may not be objectionable, should be eliminated from the diet of a diabetic.

CHORIOEPITHELIOMA MALIGNUM.

Wm. H. Dukeman, Los Angeles, Cal. (Medical Record, September 23, 1911), presents the history of a case of chorioepithelioma malignum that he treated successfully, so far as could be judged two months after the operation, until which time there had been no relapse. This tumor is a spongy growth that develops in the body of the uterus following abortion or labor. Fatal metastases develop in other parts of the body. The growth consists of blood spaces surrounded by a cellular wall of clear cells of the chorion, and syncytial masses penetrate the blood-vessels and cause the metastases. In some cases it begins following a hydatid mole. The etiology is obscure. It occurs five to seven weeks after labor and from several weeks to five years after a hydatid mole. The prominent symptom is profuse hemorrhage, followed by foul discharges from broken down tissues. The only possible treatment is early operation, with removal of a part or the whole of the uterus.

GASTRIC ULCER.

The danger of the development of cancer from calloused gastric ulcer and the advisability of early operation and more direct methods in the treatment of these cases is emphasized by R. C. Coffey, Portland, Ore. (The Journal A. M. A., September 23). He points out that the use of clamps to protect the field is not ideal and relates a case in which he lost a patient from secondary hemorrhage due to pressure from the clamp. He, therefore, describes in detail a method in which they are dispensed with, illustrating it by figures in the text. He has successfully used this in the removal of the cecum for carcinoma and made an anastomosis between the ileum and the transverse colon by this method. His paper is summed up as follows: "First—It is generally the opinion of progressive gastric surgeons that callous ulcers of the stomach not located near the pylorus should

be excised, and there is a rapidly growing belief that the Rodman operation should be performed more frequently: (a) because the drainage operation does not always cure; (b) because of the large percentage of callous ulcers (26 per cent.) which become cancerous. Second—In order to do good ulcer surgery it is necessary to determine the extent and location of the ulceration. This can only be done properly through an incision in the stomach wall and when clamps are not used. Third—The incision should be ample and should usually be made transversely to avoid the vessels, after which step the inside of the stomach should be seen. By the use of deeply placed traction loops the anterior wall of the stomach is lifted, the gas in the stomach comes to the top and escapes when the incision is made, thus relieving the intragastric pressure. The fluid now immediately gravitates to the lower levels of the stomach cavity, from which it may be dipped and sponged with deliberation. After the stomach is thus emptied and the cavity dried, the inspection of the mucous membrane is easy and the mystery and difficulties of stomach surgery vanish; for the surgeon, after opening the omentum above and below the stomach and packing the lesser peritoneal cavity with gauze, proceeds to trim out the diseased portion with the same precision and completeness with which he would amputate a leg for gangrene or remove a breast for cancer. Fourth—By the use of traction loops gastro-enterostomy may be done by the "no clamp" method, just as quickly as with the clamp method, much more directly and accurately, and with less soiling and less danger. Pylorectomy for ulcer or cancer is also done in a more correct surgical manner by using the traction loops than by the use of clamps. Another advantage is that the remaining portion of the stomach may be carefully inspected again after the gauze is removed from its cavity with the view of detecting any disease which may exist."

THE TREATMENT OF FLOATING KIDNEY.

Professor Fürbringer (*Deut. med. Wochenschr.*, No. 18, 1911), points out that a fully developed movable kidney that does not give rise to symptoms will not require treatment, and such patients should be assured of the harmlessness of their condition. If the abdominal walls are flaccid some means of support, as bandages or a corset, should be employed and will

be found sufficient in the majority of uncomplicated cases. They must, however, exert pressure upon the entire abdomen from below forward and from above backward, and lift up the kidney indirectly, that is, through the subjacent abdominal contents. Rest on the back relieves the frequently recurrent pains, but he has never seen any permanent restoration of the kidney to its normal condition through prolonged use of this method. Massage, if employed at all, should be very gentle. Operative fixation of the kidney in cases where this condition causes marked disturbance and interference with work gives excellent temporary results in a large number of instances, although the end results are less promising and the procedure is not free from risk to life.

HYPERTHYROIDISM.

The relation of the thyroid gland to the genital organs is noticed by M. F. Porter, Fort Wayne, Ind. (*Journal A. M. A.* September 30), who suggests that a rational therapeutic test in the disease would be the administration of an ovarian or testicular extract, and that absence of sexual excitement is probably the chief therapeutic factor in the so-called "rest treatment" of hyperthyroidism. He has had several cases which lend color to this view, one of which he reports. The various surgical measures for exophthalmic goiter and their respective advantages and disadvantages are mentioned and he considers pole ligation, as suggested by Stamm, as theoretically the best. Partial thyroidectomy, however, is the most effective treatment we have up to date. This is a major operation and is largely utilized only when the patient is in an advanced stage and a lowered physical condition. Hence the dangers in thyroidectomy of anesthesia, shock, hemorrhage, hyperthyroidism, infection, recurrent laryngeal nerve injury, injury of parathyroids, air embolism, collapse of trachea, and consequent asphyxia. To these, he says, could be added a tenth, namely myxedema. It is quite plain, he says, that a simple, safe and effective operation for hyperthyroidism is much to be desired. He believes that the injection of boiling water into the gland would meet the need. His experience with the method up to date has not been sufficient to put it on a firm basis but he thinks it enough to warrant this belief. The method was first used on dogs to demonstrate its safety by his former assist-

ant, Dr. H. K. Mouser. Since then, however, he has treated three patients, whose histories are given. In two of these cases the treatment gave relief. In the third there was some improvement but a thyroidectomy was finally performed to get rid of the deformity that was left. An interesting feature was the hemiplegia which became manifest in this patient at the end of the fourth day after the operation and which, according to his opinion, was caused by cerebral hemorrhage due to arterial degeneration produced by the prolonged intense thyroid intoxication. Six weeks later her paralysis had greatly improved. Altogether, he has injected boiling water into hyperactive goiters twenty-nine times in four patients. From 40 to 150 minims were injected at each point and from one to three points injected at each sitting. No untoward results followed the injections in any case but marked improvement always resulted. He thinks the treatment specially adapted to the very mild and very severe cases. The injections should be made within the capsule, avoiding the neighborhood of the parathyroids and recurrent laryngeal nerves and with the same precautions governing the boiling water treatment of angiomas. The article is illustrated.

ALCOHOLISM AS A COMPLICATING FACTOR IN ANESTHESIA.

F. Hoeffler McMechan, Cincinnati, Ohio (Medical Record, September 30), states that the previous use of alcohol by a patient increases the dangers of anesthesia. The patient is very likely to have delirium tremens after recovery from the anesthetic. He is also liable to cyanosis and respiratory failure. Acute alcoholism in cases of injury forbids anesthesia unless this is necessary to save life. Alcoholics require excessive quantities of ether. Gas-oxygen is not yet very satisfactory, since nitrous oxide produces cyanosis, a condition that is feared in cases of alcoholism. Ether by the drop method unduly prolongs the stage of excitement. Chloroform increases the rigidity, which is a dangerous symptom in this class of patients. The use of ethyl chloride before ether facilitates the anesthetizing of alcoholics; it does not produce cyanosis and enables one to administer the ether easily. The author advises the following procedure: follow the ethyl chloride with CF mixture by the drop method. Oxygen may also be used to counteract the tendency to cyanosis. Postoperative recovery from ether is very rapid in alcoholics and vomiting is rare.

HYDROPHOBIA.

A. M. Stimson, Washington, D. C. (Journal A. M. A., September 30), discusses the measures necessary for the eradication of hydrophobia. There is no part of the world that is not capable of harboring the disease and, since the dog is the perpetuator of rabies, any measures must apply first to dogs. When wild animals become infected they should, of course, be exterminated and this should also be the case with ownerless dogs or those which may not be legally provided with a current license tag. Owners should be legally responsible for damages, and the public should be specially educated with regard to the disorder. There should be the means of obtaining reliable information in all parts of the country and the control of the importation of dogs into one region from another. These are general measures. Among the special measures to be employed are the muzzling and restraint of dogs, which should not be limited to any special period of the year, but enforced whenever cases of rabies occur and for a minimum period of at least six months. Animals that have been bitten by other animals should be quarantined and in the case of cats and dogs they should be killed. While the necessity of disinfection may not appear pressing it is advisable. Compulsory notification of cases of rabies and compulsory notification of new animals bitten should be enforced and there should be authority to enforce a quarantine on infected localities. Pasteur treatment should be provided for under state and municipal auspices and each state and territory should vest authority under some central office which shall collect information regarding the disease and give information concerning it, investigate reported cases and epizootics, maintain permanent and apply temporary measures of control, coöperate with corresponding authorities in contiguous states, provide a laboratory for examination of suspicious material, and provide for preventive inoculation of exposed persons. The central authority may be in the state board of health and local veterinarians may be intrusted with the control of the disease in their districts. The difficulties in the way are the present inadequate measures for regulation, and the mental attitude of the average dog owner is the greatest obstacle of all. This may be due to selfishness or indolence, or indifference. The lack of uniformity and correlation of methods employed in adjoining territory has been another great obstacle. In Eng-

land it was only after the anti-rabies methods were intrusted to one central authority that permanent amelioration and finally complete eradication of the disease was effected.

A FURTHER NOTE ON THE CLINICAL USE OF SCARLET RED AND ITS COMPONENT AMIDOAZOTOLUOL, IN STIMULATING THE EPITHELIALIZATION OF GRANULATION SURFACES.

J. S. DAVIS (Johns Hopkins Medical Bulletin, July, 1911).

The beneficial effects of scarlet red ointment (8 per cent.) on sluggish and extensive granulating areas were reported by Davis two years ago. His further experiences confirm his good opinion of the efficacy of this remedy. Recently he has tried the effect of amidoazotoluol ointment (8 per cent.) as recommended by Hayward and finds this ointment equally, if not more, effective. The dressing with either of these ointments is simple, non-irritating, and causes less discomfort than other forms of dressing. The use of scarlet red or amidoazotoluol in blue ointment is advantageous for syphilitic ulcers. Davis has never seen a wound healed with these ointments break down. At times it is advantageous to apply either ointment directly to the wound and then expose to sunlight and air. The substances can be used as a dusting powder in four to eight per cent. strength to boric acid. The method of application briefly is as follows: The ointment is applied alternately with some bland ointment every 24 or 48 hours. Anoint the skin surrounding the defect with some bland ointment to within 1 cm. of the edge; then spread the scarlet red ointment in a thin layer on perforated old linen and apply to the wound. If a 4 per cent. scarlet red ointment is applied on partial skin grafts 48 hours after grafting, there is rapid stimulation of the wound edges and also of the grafts themselves.

Book Reviews

INTERNATIONAL CLINICS. VOLUME III. Twenty-first Series, 1911. A quarterly of illustrated clinical lectures and especially prepared original articles by leading members of the medical profession throughout the world. Edited by Henry W.

Cattell, A. M., M. D., Philadelphia, U. S. A. J. B. Lippincott Company, Philadelphia and London. Price \$2.00.

Reviews of the volumes of *International Clinics* having appeared frequently in this journal, we take it for granted that our readers are quite familiar with the high character of these volumes. This volume is thoroughly trustworthy and concise, and is what it is intended to be "a reflection of recent advances, discoveries and improvements in medicine and surgery." In this volume appears, *Some Uses for Some Old Drugs*, by Edward W. Watson, M. D.; *The Modern Treatment of Arteriosclerosis*, by Harlow Brooks, M. D.; *Heart Therapeutics and the Individual Patient*, by James J. Walsh, M. D.; *The Investigation of the Duodenum*, by A. L. Benedict, M. D.; *Large Aneurism of the Innominate Artery; Report of Post-Mortem Findings*, by F. Griffith, M. D.; *Paracentesis Thoracis*, by Frederick Tice, M. D.; *Has the Present System of Placarding Houses Proved Beneficial to the Public?* by Julius H. Comroe, M. D.; *Dynamic Diagrams of the Pulse*, by Theophil F. Christen, M. D.; *Fasting*, by C. C. Mapes, M. D.; *The Relationship Between Gastric and Urinary Acidity*, by Thomas R. Brown, M. D.; *Physical and Mental Hygiene in the Young, With Remarks Upon the Development of Dementia Praecox*, by Paul V. Anderson, M. D.; *Venereal Diseases in Children*, by G. W. Hunter, M. D.; *The Prognosis in Traumatic Nervous Diseases*, by Theodore Diller, M. D.; *The Operative Treatment of Recent Fractures of Long Bones*, by Thomas W. Huntington, M. D.; *Symmetrical Axillary Lipomata Simulating Polymastia*, by Howard Lilienthal, M. D.; *The Surgical Treatment of the Disabilities Following Anterior Poliomyelitis*, by E. H. Bradford, M. D.; *Management of the Pre-operative Stage of Acute Mastoiditis by General Practitioners*, by Samuel J. Kopetzky, M. D.; *Morbid Pregnancies Under Hospital Treatment, Etc.*, by J. W. Ballantyne, M. D., F. R. C. P. E.; *The Retraction Ring As a Cause of Obstruction in Labor*, by Robert Jardine, M. D.; *Refraction for the General Practitioner*, by William Zentmayer, M. D.; *The Successful Practice of Medicine*, by Thomas F. Reilly, M. D., and *Economic Conditions Affecting Physicians*, by Herman B. Allyn, M. D.

ANATOMY. A MANUAL FOR STUDENTS AND PRACTITIONERS. By John F. Little, M. D., of the Jefferson Medical College, Philadelphia. New (2nd) Edition, enlarged and thoroughly re-

vised. 12mo, 491 pages, with 75 engravings. Double number. Cloth, \$1.50 net. The Medical Epitome Series. Lea & Febiger, Publishers, Philadelphia and New York, 1911.

This small volume has been prepared to meet the demands of students and should be of the utmost assistance to them for purposes of quizzing, and to physicians and surgeons for refreshing their memory on anatomical points. Several printings of the first edition having been exhausted has led to the call for a revision, in which it has been brought thoroughly up-to-date and improved in many ways. While a few minor criticisms might be made, the book in its entirety is a clean-cut, complete exposition of the most important subject in medicine. The book presents a comprehensive view of anatomy and will be greatly appreciated by students and practitioners.

ACKNOWLEDGMENTS.

THE WAY WITH THE NERVES. Letters to a Neurologist on Various Modern Nervous Ailments, Real and Fancied, with Replies thereto Telling of Their Nature and Treatment; By Joseph Collins, M. D., Physician to the Neurological Institute of New York. New York: G. P. Putnam's Sons. Pp. 313. (Price, \$1.50.)

REPORT OF A CASE OF HODGKIN'S DISEASE COMPLICATED BY PREGNANCY; By Asa B. Davis, M. D. Reprint.

SOME INVESTIGATIONS CONCERNING THE RELATION BETWEEN CARPAL OSSIFICATION AND PHYSICAL AND MENTAL DEVELOPMENT; By Eli Long, M. D. Reprint.

FIVE ILLUSTRATIVE CASES OF PRIMARY MELANOSARCOMA OF THE CHOROID; By J. H. Woodward, B. S., M. D. Reprint.

EXTRACTION OF FOREIGN BODIES FROM THE EYE WITH THE "CORNEAL CURETTE"; By John M. Wheeler, M. D. Reprint.

CONSERVATION OF THE SOIL; Address of President Taft before the National Conservation Congress, at Kansas City, Mo., September 25, 1911. Reprint. Washington Government Printing Office, October 5, 1911.

STATE EMPLOYERS' LIABILITY INSURANCE; By Edson S. Lott.

THE SALIENT EPIDEMIOLOGICAL FEATURES OF PELLAGRA; By C. H. Lavinder. Reprint. Washington Government Printing Office, 1911.

PRACTICAL, GLEANINGS.

Repeated attacks of "hyperacidity" usually mean gastric or duodenal ulcer—gastric, if the pain is one hour or less after eating (Moynihan's "hunger pain"); duodenal if three hours and probably pyloric if about two hours after eating.

A chronic gonorrhoea that is proving refractory to energetic local treatment often improves immediately with the complete cessation of all therapeutic measures.

If a patient prepared for ureterolithotomy has a sudden surcease or an exacerbation of pain—and even without these if the stone is quite small—have a final skiagraphic exposure just before operating. If the stone has slipped into the bladder it is better for both patient and surgeon to discover this by X-ray than by the knife.

Generally speaking, functional kidney tests are of largest value in surgical diseases of this organ, although in chronic interstitial nephritis they have been shown to demonstrate the activity of urinary function.

Both ether and chloroform anesthesia have a hemolytic effect, which is followed by a compensatory polycythemia. It is followed also by 30 per cent. increase in the leucocytes, which begins during anesthesia and lasts for about 24 hours. Leucocytosis is also induced by saline infusions and purgation.

Do not permit the withdrawal of a filiform whose introduction has given great difficulty, until it has remained within the urethra sufficiently long to well open the contracted point.

When tuberculous involvement of the Fallopian tubes is evident to the naked eye, pan-hysterectomy should be performed.

Simple perforation of the uterus during a curettage in an aseptic field requires no further treatment than a packing of gauze in the uterus.

NEWS ITEMS.

The fifty-sixth annual meeting of the Kentucky State Medical Association was held in Paducah, October 24-26, under the presidency of Dr. Joseph E. Wells, Cynthiana. The following officers were elected: president, Dr. David O. Hancock, Henderson; vice-presidents, Drs. Delia Caldwell, Paducah, William L. Mosby, Bardwell, and James R. Steele, Corbin; orator in medicine, Dr. Curren Pope, Louisville; orator in surgery, Dr. Archibald H. Barkley, Lexington; delegates to the American Medical Association, Drs. William W. Richmond, Clinton, and J. W. Ellis, Masonville; councilor for the Fourth District, Dr. Robt. C. McChord, Lebanon; and Councilor for the Eleventh District, Dr. James S. Lock, Barbourville. The secretary, Dr. Arthur T. McCormack, Bowling Green, and treasurer, Dr. William B. McClure, Lexington, hold over for another year.

At the annual meeting of the Mississippi Valley Medical Association, held in Nashville, Tenn., on October 17th, 18th and 19th, the following officers were elected to serve for the ensuing year: President, Dr. Louis Frank, of Louisville; first vice-president, Dr. Albert E. Sterne, of Indianapolis; second vice-president, Dr. F. W. Werner, of Joliet, Ill.; secretary, Dr. Henry Enos Tuley, of Louisville; treasurer, Dr. Samuel C. Stanton, of Chicago. The association will meet next year in Chicago.

The Jefferson County Medical Society, at their meeting of October 16th, had as their guests Dr. C. W. Suckling and Mr. William Billington, both of Birmingham, England; Drs. A. Ernest Gallant, of New York; C. N. Smith, of Toledo, and Albert E. Sterne, of Indianapolis. The essays of Dr. Suckling and Mr. Billington on "Results of Neglected Movable Kidney" were of great merit and elicited sharp and generous discussions. Dr. Gallant's paper was greatly enjoyed.

Twenty physicians of the East End met at the office of Dr. J. M. Morris, 1935 Frankfort Ave., and took preliminary steps toward the organization of the physicians of the East End. The name of the association will be the Clifton Medical Society. Physicians of all sections of the city will be eligible to membership. Meetings will be held the first Thursday of every month.

The charter members are as follows: Drs. Jos. Hopson, A. Peters, J. M. and C. D. Morris, Andrew Sargent, L. T. Cheatham, F. J. Kiefer, L. A. Mehler, H. G. Hartman, B. W. Smock, F. M. Walker, T. H. Baker, B. Choate, F. T. Grasser, A. E. Hitt, J. A. Stafford, R. E. Wilhoyte, E. B. Richey, A. A. Stoll and W. W. Smith. The following officers were elected: Dr. J. M. Morris, president; Dr. E. T. Grasser, vice-president; Dr. R. E. Wilhoyte, secretary and treasurer. The membership is limited to twenty-five and although the society has just been organized there remain only a few vacancies.

Dr. Charles C. Marshall, chairman of executive committee of the New York Skin and Cancer Hospital, Second Ave., corner 19th St., New York, announces that Dr. L. Duncan Bulkley will give a thirteenth series of clinical lectures on diseases of the skin in the Out-Patient Hall of the hospital Wednesday afternoons, from November 1st to December 20th, 1911.

The Louisville Society of Physicians and Surgeons held its regular monthly meeting at the Waverly Hills Sanatorium. Dr. Geo. Robertson read a paper on "Eye Strain."

The first open-air school in the South was put in operation October 5th, at the Waverly Hills Sanatorium, under the supervision of Dr. Dunning S. Wilson. Ten girls and seven boys compose the class and rest in reclining chairs about their teacher, Miss Dena Woodward. The first lessons are assigned from a handbook published by the State Board of Education, which inculcates facts regarding the prevention of tuberculosis, the disease with which they are afflicted. Unique study and recreation hours are arranged.

Dr. H. R. Carter, medical officer in command of the United States Marine Hospital, Louisville, was taken to the Johns Hopkins Hospital, Baltimore, for treatment. Dr. Carter has been in charge of the hospital two years and three months, coming here from the Panama zone, where he was head of the medical department for the Government.

Dr. F. T. Fort, of Louisville, local surgeon of the Illinois Central Railroad Company, has returned from Chicago, where

he attended the annual convention of the American Association of Railway Surgeons. At the annual election of officers he was named a member of the Judicial Committee for a term of two years.

Dr. Frank J. Kiefer, of Louisville, who has been ill at the Norton Infirmary, has returned to his home, greatly improved.

Dr. W. O. Roberts, of Louisville, has returned from a month's stay in Wequetonsing, Mich.

Dr. O. B. Haack, of Louisville, has returned from a two weeks' fishing trip to Edwardsbury, Mich.

Dr. J. A. Flexner, of Louisville, has returned from Baltimore, where he spent several days.

Dr. M. F. Coomes, of Louisville, has returned from Indianapolis, where he had been in attendance of the Indiana State Medical Society.

Dr. Harvey W. Wiley, of Washington, addressed the members of the Jefferson County Medical Society and invited guests Monday evening, October 23, 1911.* About five hundred people were in attendance and enjoyed the doctor's talk, which was most timely and instructive.

Dr. Irvin Abell, of Louisville, has returned from British Columbia, where he participated in a moose hunt.

Dr. Ernest Parsons, of Somerset, Ky., spent a few days in the city visiting friends.

Dr. Joseph M. Mathews, of Louisville, left for a trip to the Northwest, after which he will go to California to spend the winter.

Dr. Henry B. Scott, of Louisville, has returned from the East, where he spent two weeks.

Dr. Oscar Block, of Louisville, spent a few days in Indianapolis.

Dr. Clint Kelly, Jr., of Louisville, is expected home from Europe in a few weeks.

Dr. P. R. Taylor, of Louisville, has returned from a hunting trip in Old Mexico.

Dr. T. W. Combs, of Bowling Green, spent a few days in Louisville.

Dr. Ewing Marshall, of Louisville, entertained in honor of Dr. Harvey W. Wiley, of Washington, D. C.

Dr. Henry Enos Tuley, of Louisville, has been elected first vice-president of the Louisville Commercial Club.

The residence of Dr. H. G. Bow, Pewee Valley, was destroyed by fire, believed to have started from a defective flue. The Doctor had just left his home for his office in the Atherton building.

Dr. Hill Hastings, of Los Angeles, Cal., is visiting friends in Louisville.

Dr. Charles Vance, of Lexington, has returned home, after spending a few days in this city.

Dr. Evart Hawkins, Finchville, is reported to be severely ill with ptomaine poisoning.

Dr. W. J. M. Smyser, Skylight, was seriously injured October 5, by being thrown from his horse.

Dr. Everett Layton Pirkey has been appointed superintendent of the Waverly Hills Sanatorium, vice Dr. A. B. Elkins.

MARRIAGES.

Dr. W. L. Breyfogle, New York, to Mrs. Ella Pierce, of Lake George, N. Y., at Lake George, N. Y., October 14.

Dr. Raymond E. Heacock, of Easton, Pa., to Miss Mattie Lee Willis, of Cynthiana, Ky., October 18.

Dr. Ralph DuCasse, to Miss Luceyette Soule, both of Paducah, Ky., October 9.

Dr. Louis R. Edelson to Miss Corinne Marcus, both of Louisville, October 10.

Dr. William Floyd Gabbert, of Huntington, W. Va., to Miss Lillian Moss, of Louisville, at Louisville, October 28.

DEATHS.

Dr. Thomas C. Evans, of Louisville, at his home, October 26, from chronic interstitial nephritis, aged 50.

Dr. Joseph W. Robb, of Shelbyville, at the King's Daughters' Hospital, October 20, from pneumonia, aged 76.

Dr. Louis Contri, Milton, Ky., at his home, November 2, from carcinoma of stomach, aged 71.

Dr. G. G. Hubbard, Manfordville, Ky., at his home, September 23, from carcinoma of stomach, aged 77.

Dr. Alexander M. Shields, of Chaplin, Ky., died as the result of being shot, September 29th, aged 56.

Dr. Davis Foster, Paducah, Ky., on Sunday, October 1st, aged 80.

Dr. Alexander Hugh Ferguson, of Chicago, died in that city October 20, from diabetes, aged 58.

RESOLUTIONS OF THE FACULTY ON THE DEATH OF DR. THOMAS CRAIN EVANS.

Our former colleague and Dean, Dr. Thomas Crain Evans, died October 26, 1911.

The Medical Faculty of the University of Louisville desires to place upon record their sense of the great loss sustained by them, and by medical teaching, in his death.

Dr. Evans was identified with the medical schools of this city for many years. He was Dean of the Medical Department of Kentucky University until this school united with the University of Louisville. He was elected Dean of the University of Louisville, and when the remaining schools of the city were merged with the University of Louisville, he was elected Dean, and served until failing health caused him to resign at the close of the session of 1910.

Dr. Evans occupied the Chair of Ophthalmology and Otology; he was a forceful and successful teacher; he possessed executive and administrative ability of high order; he was popular with the students and the faculty; big of brain and big of body; patient, conservative, slow to anger, abounding in wisdom—he was a most potent factor in bringing to pass the formation of a high-class medical school in this city.

We will cherish his memory 'as a presence to be felt and known.'

We desire to express our deepest sympathy for Mrs. Evans in her great bereavement, and that a copy of this minute be transmitted to her and to the Medical Press.

J. B. MARVIN,
J. GARLAND SHERRILL,
VIRGIL SIMPSON,
LOUIS FRANK.

October 31, 1911.

A CASE OF TOXICOSIS WITH PSYCHASTHENIC SYMPTOMS, ILLUSTRATING TREATMENT.

TOM A. WILLIAMS, M. B., C. M., Edin.,

Corresponding Member Paris Neurological Society, etc., Neurologist to Epiphany Free Dispensary, Washington, D. C.

It is not only in the aged that Presclerotic Syndrome with nervous disturbances occurs and can be removed by means of a diet low in nitrogen and purins.

Metabolic Psychasthenia. An engineer of 38 (referred by Dr. Atkinson), a powerful, energetic man, formerly accustomed to active work, began to be unable to concentrate upon the office work to which he had confined himself for over three months. Previous to this, he had been much less active; and latterly, he had been very much worried by an official inquiry into a contract for which he had been mainly responsible. For no cause known to him, he feels a dread in the mornings; and an indecision in business matters is now realized to have been present several months. There is no syphilis nor any other organic disease.

He had been improved by three weeks in the woods, during which, he was very somnolent; but relapsed at once upon return, and could hardly stand his morning suffering. There was no insomnia.

PHYSICAL EXAMINATION. The reflexes were rather active, but there was no other objective change in the lower neurones, there was no amnesia, the sexual hygiene was normal. He was much depressed and longed to go away from it all for a year, which he could well afford to do.

TREATMENT. He was sent for three weeks into the mountains. This time he fully recovered on account of the light diet which he was prescribed and took. Breakfast and supper were fruit and milk; and his mid-day dinner was vegetables and six ounces of meat; after a few days, cereals were added morning and night.

As prevention excels cure, such results are better than that obtained by removal of effects by baths, electricity or chemical eliminants (diuretics, sudorifics, purgative) or antagonists, (iodides, nitrates) or still worse narcotics, hypnotics or calmatives, which only mask the disease while it progresses.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton," November 6, 9, 13, 20 and 27.

DR. V. E. SIMPSONPresident
 DR. A. L. PARSONS{ Vice Presidents
 DR. W. B. GOSSETT{
 DR. H. N. LEAVELLTreasurer
 DR. DUNNING S. WILSON.....Secretary

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House, November 14 and 29, 1911.

DR. J. A. FLEXNER.....President
 DR. ARGUS D. WILMOTH.....Treasurer
 DR. G. B. JENKINS.....Vice-President
 DR. H. J. FARBACHSecretary

LOUISVILLE SOCIETY OF MEDICINE; meets at the Tavern Club, November 2, 1911.

DR. EDW. B. RICHEY.....President
 DR. E. L. HENDERSONVice-President
 DR. RICHARD T. YOE.....Treasurer
 DR. W. O. GREEN.....Secretary

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club, November 16, 1911.

DR. C. G. HOFFMAN.....President
 DR. VERNON ROBINS.....Vice-President
 DR. CHAS. W. HIBBITT.....Treasurer
 DR. A. C. L. PERCEFULL.....Secretary

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, November 3 and 17 1911.

DR. J. GARLAND SHERRILL.....President
 DR. J. ROWAN MORRISON.....Vice-President
 DR. FRANK C. SIMPSON.....Secretary and Treasurer

WEST END MEDICAL SOCIETY; meets at the Old Inn, November 14, 1911.

DR. I. A. ARNOLD.....President
 DR. H. L. READ.....Vice-President
 DR. JOHN K. FREEMAN.....Secretary and Treasurer

CLIFTON MEDICAL SOCIETY; meets at 2854 Frankfort Ave., November 7, 1911. First Thursday in each month.

DR. J. M. MORRIS President
 DR. E. T. GRASSER Vice-President
 DR. R. E. WILHOYTE Secretary and Treasurer

AMERICAN MEDICAL ASSOCIATION; meets in Atlantic City, 1912.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Louisville, Ky., October, 1912.

KENTUCKY STATE HOMEOPATHIC SOCIETY; meets in Lexington, Ky., May, 1912.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., December 14, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Paris, Ky., January 2, 1912.

AMERICAN PROCTOLOGIC SOCIETY; meets in Atlantic City, N. J., 1912. (Date later.)

KENTUCKY STATE ASSOCIATION OF RAILWAY SURGEONS; meets in Lexington, Ky., May 8, 9 and 10, 1912.

KENTUCKY ECLECTIC MEDICAL ASSOCIATION; meets in Louisville, May, 1912.

NATIONAL ECLECTIC MEDICAL ASSOCIATION; meets in Washington, D. C., June 18-21, 1912.

THE American Practitioner and News.

"NEC TENUI PENNÂ."

"Certainly it is excellent discipline for an author to feel that he must say all he has to say in the fewest possible words, or his reader is sure to skip them; and in the plainest possible words, or his reader will certainly misunderstand them. Generally, also, a downright fact may be told in a plain way; and we want downright facts at present more than anything else."
—RUSKIN.

LEE KAHN, M. D. EDITOR IN CHIEF.

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Original Articles

EYE STRAIN.*

GEO. A. ROBERTSON, M. D.,
Louisville, Ky.

The tendency of the present time is to increase the work demanded of the eye. Business moves more swiftly, and during work hours there are fewer times to rest—fewer interruptions.

By specialization we are doing over and over again certain parts of a whole plan—repeating the same monotonous movements, keeping the eye and guiding the hand through a very narrow curve of activity. In training children it has been found that large objects and large drawings and bold free-hand work get the best results, but that small work early tends to fatigue.

The same thing holds good with older workers, though with years and experience we train our minds, our eye, and our hand, to go on even when fatigued, till eventually much that we do is automatic, and we are not conscious of an individual act, but of the effort in general.

Artificial illumination is making the hours for activity longer. When the "eight or ten hour" day is over, the laborer still finds

*Read before the Louisville Society of Physicians and Surgeons, November 16, 1911

many hours for work or amusement under the illumination of some form of artificial light.

Many buildings are so constructed that the daylight will not penetrate to every part, and there are in offices and stores many, many clerks who work under electric light all day.

"Common experience shows that when a given amount of work can just be done without fatigue of the eye in natural day light, the eye will become rapidly fatigued performing the same work in *artificial light*."

Then think how much of the learning in our schools depends upon the training of the eye, the books, the charts, the tablet work that is being done, the evidence in every form of instruction of the increasing claim upon the sense training of the eye, and the little training the other senses are given in the schools, though perhaps some progress is being made along the lines of manual work.

There are so many complicated machines and such demand for expert work that every waste moment, every unnecessary act cuts down profits. But when the sense of distance, the ability to judge size and position come by muscle sense, the effort it takes to move the eyes upon their axes, the idea of distance is the muscle pull necessary to look from the spot where one stands to the object in the distance, the energy required to raise the eyes, to turn the eye from right to left, to waste no energy, to speed the work to turn out best results, makes for eye strain and muscle poise. In amusements the demand upon our eye quite exceeds our other senses.

For some athletic chaps play our games, some artists parade upon our stage, the theater and the moving picture show call into play all the activities of our accommodation to keep the eye focused upon the rapidly changing scene and the illumination changes so rapidly that the pupil of the eye is constantly contracting or dilating.

In natural conditions at noon-day the sun is brightest, the day light most intense, but at that hour the rays of light cannot enter directly into the eye, only early morning and late afternoon finds the sun rays entering directly into the eye, but the amount of light has greatly diminished by that time.

However, with *artificial illumination* the light is of full intensity and shines directly into the eye. Dr. Schanz and Dr. Stockhausen, in 1907, at the Congress of Naturalists and Physicists made their report upon the quality of artificial light, and the

amount of ultra violet rays contained and the effects upon the eye. Investigations were made of all forms of light from old Roman lamps to the most recent electric lights. The spectrum of crude oil lamps hardly exceeds the region of visible rays. The ultra violet range is extended as soon as a chimney is added, greater extension with increased temperature, and still greater with an incandescent mantle, but the longest ultra violet spectrum is found in electric illuminants, of which the mercury vapor light and arc light have the highest percentage of irritant rays. The ultra violet rays set up changes in the conjunctiva, the cornea and the retina, and are being accused of *causing cataracts*.

When the eye is working overtime, is laboring from fatigue, and under the added disadvantage of irritation from artificial light, any defect in the eye is more than exaggerated and symptoms, general or local, develop which are summed up under the heading "STRAIN."

Following the division suggested by Ernest Clark, of London, Eye-strain divides itself under these heads:

- (1.) Manifest Eye Symptoms.
- (2.) Peripheral Irritations (Headache).
- (3.) Nerve Exhaustion.

My intention in this paper is only to list the causes leading up to *Eye Strain*, which have already been discussed: The introductory remarks upon hours of work, the demand upon the eye, and the conditions of light under which work is done, covering pretty well this part of the subject.

That which I feel demands our consideration are conditions of irritation or nerve waste which depend upon eye defects. These I wish to present in such order that the physician will accept his responsibility.

Eye Strain, with local manifestations, is the simple case. Redness and lachrymation, marginal inflammation of the lids, styes, and itching and aching eyes, and the difficulties of defective vision, call attention to the eye so quickly that the right treatment is instituted. But when the vision is normal, or when the sight is so good no thought is turned toward it, or when the eyes have already been fitted with glasses, it is easy to overlook the cause of very vague symptoms of irritation. The wearing of a glass probably corrects most of the visual defects but a nerve fatigue could easily come when the patient is run down, from every minute effort to overcome a little defect which the glass does not

balance. Then eyes change with the years, what was once a good correction becomes less adapted to the visual defect.

Many eyes read the test letters perfectly, but when a second test is made at the near print (13 inches) the accommodation shows effort.

Headache, neuralgia, and sometimes double vision, blurring, or uncertainty, inaccurate copying of details, as in draughtsmen, shows the great stress placed upon accommodative effort in order to see close objects.

Many cases do not develop *Eye Strain*, though large degrees of ametropia exist, till some exacting kind of work is taken up. It is not at all unusual to find the men coming from the country towns or the farm developing evidences of *Eye Strain* quite soon after taking up their residence in the city in clerical position, or for students to complain of eye troubles when they have not known any such thing before their work brought such constant demand upon the eye.

There is quite an interesting study of the constitutional resistance demonstrated by the greatest diversity in the degree of visual defect. Large errors of refraction will be found with less than an ordinary eye weariness. Sometimes a fraction over a piece of window glass will instantly cure an aching head. Many functional nerve disorders can follow or depend upon *Eye Strain*.

Two cases I recall—One, a stenographer suffered from vertigo with glasses normal. Examination showed the patient go. Nothing else relative to *Eye Strain*; was wearing glasses, wearing astigmatic lenses when the defect was a very small degree of simple Hypermetropia, relieved by change of glass. Another case was one where a chronic gastric pain was relieved when the eyes were fitted with proper glasses.

Usually many cases complain of slight nervousness and brain-fag with some variety of indigestion.

Of course, with indigestion there will arise toxic headaches, but the headache from eye strain alone does not appear in the morning or early hours of the day as one of toxic origin will.

In children choreiform movements and even grave forms of nerve and mind disease sometimes develop, and in adults occasionally insomnia.

There are two general defects found in eyes: *Hypermetropia*, where the eye is small and focused for distance and the nearer an object to the eye, the greater the effort to see. This farsighted eye predominates and would seem to be, perhaps, the normal

condition, but by our demand upon the visual sense to do near work, we are developing a greater power of accommodation and forcing the eye to see clearly at close range, developing *Eye Strain* with it.

The second form of visual defect is *Myopia* (near sight), where the eye is too large and the focus falls within the eye, and not upon the retina. To focus such an eye depends upon a larger image. At short range accommodation will not answer and the object is brought up to the focal point. But with the object so near the two eyes are forced to move toward each other so strongly that they turn on a large arc of their rotation and there is external muscular strain, as well as effort to focus (internal muscular strain.)

A defect develops when we have either irregular curvature of the eye or a mixture of *Myopia* and *Hypermetropia* resulting in *Astigmatism*. Here neither accommodation or close range vision produce a clear sharp image. This is the cause of many cases of *Eye Strain*, and even the most minute fraction of a diopetre of error will demand attention.

In ordinary health and under most normal conditions the eye adjusts itself to many variations, but it is a source of nerve waste which will set up symptoms of exhaustion.

Treatment demands correction of all visual defects if possible.

Recognition of *Eye Strain* as a causative factor of many obscure conditions. Under the nerve waste and exhaustion we find such remote conditions as suicidal tendencies, alcoholism and drug habits, bettered by consideration of *Eye Strain* as a possible contributing cause. It is not unreasonable to consider *Eye Strain* and its correction, part of the routine treatment in early stages of tuberculosis. We recognize the value of the mountains and sea shore resorts as aids in the cure of many neurotic patients. Could it not be the rest to the eye by distant vision, for all objects are largely at greater length away from the patient's eye than the customary desk and book work, and the eye is not constantly in use as when the newspaper and the passing crowd must be scrutinized when the office work is done.

Some systematic and sustained effort made to vary or lighten the continued eye work ought to be made. Shall it be by stopping so much clerical work under artificial light?

The U. S. Government printing office had to remove the mercury vapor light from their building because of the great strain it put upon the eye. The report comes from Washington that of

late more clerks in the department offices are wearing glasses than ever before. Is it due to light irritation, or to heavier work, or to early recognition of *Eye Strain*?

Glasses are being put upon school children early. Is it the defect of the child's eyes alone, or can our system of education be faulty?

In 1,196,000 children examined in the London County Council Schools 10.39 per cent had eye defects.

Of eye defects in village schools near Birmingham 29 per cent. were Hypermetropia and $7\frac{1}{4}$ per cent. Myopia. In city schools the per cent. of Myopia increased to 29 per cent., showing how crowding and shorter distance views make a larger amount of near work and develop an eye tending to be defective.

Special hygiene is demanded to stop this increase, to save the eye of the Myopic child.

Belgium and Sweden have made the first great advance by attacking the enemy to vision "*The Book*." More large work, more out-of-doors, less book work, and more free hand work.

We train our eye to be the door to the mind. Most of our learning comes through this sense. The other senses are merely aids and not trained to equal acuteness. A wiser division of labor will lessen strain on the eye.

Some authorities are claiming that the first born inherit direct the eye defects of the parents, and certain it is that Myopia will run through many generations and leave its mark in each child's eyes. Will legislation ever refuse to Myopics the right to marry?

In review: (1) *Eye Strain* grows with the greater demand put upon the eye. (2) It increases as we work more and more by artificial light. (3) *Of artificial light*, electric lamps are most irritating. (4) *Lack of rest* brings greater nervous fatigue: greater fatigue increases the irritation from small eye defects. (5) *Our mode of living* calls for much close work. Modern inventions make books and magazines plentiful—reading more constant. (6) *Crowding* in cities brings people and things at closer range, developing a near-sighted race. (7) *Near-sighted* eyes are increased by our system of book education. (8) *Near-sighted* parents tend to beget near-sighted children. (9) *Eye Strain* produces a great deal of nervous waste. It tends to delay and prevent cure in many general diseases.

HISTORY OF THE TUBERCULOSIS MOVEMENT IN LOUISVILLE, JEFFERSON COUNTY, KENTUCKY.*

DUNNING S. WILSON, M. D.,
Louisville, Ky.

DISPENSARY.

On April 26, 1907, a resolution was introduced by Mr. Chas. Goldsmith, chairman of the Dispensary Committee of the Louisville Anti-Tuberculosis Association, and was unanimously adopted. This resolution provided for the establishment of the Tuberculosis Dispensary to be opened on or about June 1, 1907. A suitable house on Chestnut street, between Brook and Floyd, was contracted for, but owing to the great opposition on the part of the neighbors, the owner declined to give possession, and temporary quarters were installed in the Louisville College of Pharmacy Building at First and Chestnut streets, and the dispensary was formally opened June 1, 1907, with the following volunteer staff of physicians: Drs. William Bailey, Chairman of the staff; Dunning S. Wilson, Vice Chairman of the staff; A. O. Pfingst, S. G. Dabney, I. Lederman, E. S. Allen, J. B. O'Connor, J. B. Richardson, Jr., Carl Weidner, B. C. Frazier, R. A. Bate, Herbert Brommer, Florence Brandeis, J. R. Morrison, Frank C. Wilson, Henry E. Tuley, Chas. Moir, Cuthbert Thompson, J. A. Flexner, W. A. Jenkins, and Miss Emma B. Towne, R. N., visiting nurse. Such great opposition was shown on the part of the persons living in the neighborhood of the Louisville College of Pharmacy to the presence of the dispensary and the trustees of the said college also objecting to the dispensary occupying quarters in the building, efforts were made to secure another location. Mr. Chas. Goldsmith, after considerable work succeeded in securing a lease on the house at 121 W. Chestnut street, for a term of three years, and the dispensary paraphernalia was moved to this number at night, while policemen were guarding the premises of 208 East Chestnut, for which a lease has been contracted but of which the landlord had declined to give us possession. The people in the block were much surprised to find the following morning that the dispensary was securely entrenched at 121 West Chestnut street, and though attempts were made from time to time to dislodge the dispensary, they have long since ceased and instead of there being objections

*Written for this Journal.

to its presence the attitude of the public is entirely changed and there has been no further trouble. The work has grown from a few patients up to many hundreds. Owing to lack of funds the dispensary was discontinued in the early part of 1908 and by an agreement with the Board of Tuberculosis Hospital the said Board took over the work of the dispensary, appointing at that time instead of the volunteer staff, which had proved unsatisfactory, one physician, Dr. Dunning S. Wilson, and Miss Alycene Robbins as visiting nurse. The Louisville Anti-Tuberculosis Association and the Board of Tuberculosis Hospital divided the office expenses and the Louisville Anti-Tuberculosis Association, owing to the pressing need of more nurses, agreed to pay for two visiting nurses. Work has grown so largely since then that there are now four nurses employed in the city and one in the county, and there is pressing need for several more to be added to our visiting nurse staff.

In January of 1910 Dr. A. M. Forster was elected Medical Director of the tuberculosis work in the City of Louisville, giving him charge of the Association Sanatorium at Hazelwood, the Board of Tuberculosis Hospital, operating the Waverley Hill Sanatorium and the Tuberculosis Dispensary and the general supervision of the tuberculosis movement.

On December 10, 1910, Dr. Forster having resigned two months previous, Dr. Dunning S. Wilson was elected Medical Director and Superintendent of the Board of Tuberculosis Hospital and dispensary and the Association Sanatorium.

STATE ASSOCIATION.

In 1909 through the efforts of the Louisville Anti-Tuberculosis Association the Kentucky State Association for the study and prevention of tuberculosis was organized with the following persons composing the directorate: C. L. Adler, Louisville, President; Mrs. Desha Breckinridge, Lexington, 1st Vice President; Dr. S. H. Keller, Frankfort, 2nd Vice President; Mrs. Chas. E. Dallam, Henderson, 3rd Vice President; E. T. Franks, Owensboro, 4th Vice President; Mrs. B. L. Banks, Richmond, 5th Vice President; Harriet E. Anderson, Acting Secretary; Jas. Andrew Scott, Frankfort, Dr. Geo. P. Sprague, Lexington, Mrs. Lafon Riker, Harrodsburg, Dr. Dunning S. Wilson, Louisville, Bernard Flexner, Louisville, Thos. Johnson, Lexington, Dr. Jacob Glahn, Owensboro, Miss Harriet E. Anderson, Louisville, Dr. W. R. Thompson, Mt. Sterling.

Mr. Eugene Kerner was appointed as Executive Secretary. The first year of the association was a very trying one, but through the untiring efforts of Mr. Kerner, supported by Mr. Adler and Mr. Flexner, organizations were formed in some of the towns of the State and with the co-operation with the State Board of Health the work continued to grow. A traveling tuberculosis health car was placed at the disposal of the Association by the Louisville & Nashville Railroad, sufficient money being contributed to repair the car and leave a balance for the necessary equipment. The railroads of the State agreed to charge nothing for hauling the car from place to place, and after months of endeavor the car was fully equipped and pulled out of the L. & N. yards June 12, 1911, en route to Smith's Grove, the first stopping point of its itinerary. Since that time 68 towns have been visited and 30,349 persons have visited the car and 16,165 have attended lectures given by Mr. Kerner, the Secretary. At the annual meeting in October, 1911, question of State legislation was discussed and Mr. Flexner, with others, are preparing bills to be presented to the next legislature, which, if passed, will give Kentucky an opportunity to initiate measures which will partially provide means of protection to those persons in the State who have not already contracted tuberculosis and will afford partial provisions for the care of those suffering from the disease. With the exception of Louisville there is no provision for the care of consumptives in any city of our State and while it would require many millions of dollars to adequately solve the tuberculosis problem in our State, it is absolutely imperative that the Commonwealth of Kentucky through its legislative body, provide some means whereby a start may be made. Financial support from the State must be assured in order that Kentucky shall keep pace with other States in ridding herself of this scourge. Those of us who are interested in the tuberculosis work, are well aware of the fact that there are many calls upon the State from many worthy organizations, but from our investigations and the investigations of persons in other States we make no hesitancy in saying that the twentieth century presents no greater problem than is presented by the one disease, tuberculosis, and we are sure that orphan asylums, children's home societies and many other magnificent charities would be greatly relieved of their burdens if our State was entirely freed from tuberculosis.

This can only be done by providing adequate means whereby persons in the earlier stages of the disease be sent to sanatoria,

those in the advanced stages sent to tuberculosis hospitals. It has been the experience of all who have any working knowledge of tuberculosis, that one far-advanced case of tuberculosis is responsible for from two to five other cases of tuberculosis, segregation of them will protect the community and save hundreds of dollars in preventing other cases. The problem presented by tuberculosis is not a physician's problem; it is and has been very largely a layman's movement. The reason for this is very plain. Tuberculosis is no respecter of persons, and financiers and business men of all kinds have been impressed with the fact that the earning capacity of men and women, the production of orphans, the loss of thousands and thousands of dollars to the city, the State and the Nation, has been due to the presence of tuberculosis, seeing which the business men have taken it into their hands to prevent, if possible, its further ravages.

(To be concluded.)

THE SYMPTOMATOLOGY OF PELLAGRA.*

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On account of the necessarily indefinite knowledge concerning the etiology of this disease we must content ourselves, in this discussion with a resume of the principal symptoms leading to a diagnosis of Pellagra.

It has been presumed that the ailment is seen only in the class of the lowly, and that in some way the diagnosis carries with it certain stigmata of poor hygiene and slovenly habits. This presumption is hardly fair, and will lead to error in doubtful cases. It is true that the majority of cases seen are in institutions for the care of the poor, or in insane asylums, and that in these cases slovenliness of person is a predominant manifestation, but this is true only because these cases are generally most available as clinical material. If the cases in private practice were as easily discovered by the investigator, he would be compelled to conclude that Pellagra is no respecter of persons.

This last statement must be modified to meet one very interesting fact. Over 75 per cent. of all cases are in women. But the class of the diseased varies all the way from the miserable negro pauper who dribbles her way into some insane asylum, to

*Written for this Journal.

the fair daughter of the well-to-do planter. Interesting data are now available in the publications of the United States Public Health and Marine Hospital Service showing the present distribution, geographically, of Pellagra.

While the symptomatology is generally given in three large groups, this is done merely for clearness in the preparation of the study. In fact the clinical signs are so inter-related that it is not possible to say when one group of symptoms begins and another ceases. *THE GASTRO-INTESTINAL SIGNS* are probably earliest manifest. It is not infrequent, however, for an observer to be confused by the evidences early shown in this tract, only to have the diagnosis forced upon him by the later appearance of the skin lesion, which is the criterion. In fact most writers claim that the diagnosis must be reserved until the skin lesion has appeared. This precaution is eminently wise, until the premonitory signs can be unmistakably classified. That has not yet been done. However, some men who have seen the disease in many stages, and over diverse periods, claim that there is so characteristic a tendency in the gastro-intestinal signs that it is safe many times to make a tentative diagnosis, and reserve the final opinion until the skin manifestation confirms the suspicion.

The tongue is of double importance. It is the earliest site of the irritation, and presents the very earliest evidences of beginning convalescence, or improvement in the disease. Babcock calls attention to the tongue, laying particular stress on the papillae. Lombroso taught his pupils to feel the edges of the tongue with their fingers, to note the papillae, as well as the smooth glistening characteristics. This organ is red, swollen, sometimes presenting areas of denuded epithelium surrounded by whitish coat. Again the entire surface will be smooth and bright red, with a few papillae presenting at the tip and on the edges, giving the "beefy tongue," that might suggest a number of other conditions. The gums are red, the inside of the lips and cheeks take on the same angry red appearance and the teeth, tongue and gums are coated with stiff glairy saliva that sticks to the tongue when the patient tries to speak.

This saliva is sometimes very profuse. The mouth condition is not unlike mercurial salivation. The condition is one of severe glossitis and gingivitis, and depending on the stage and severity of the condition, the saliva may be in such profuse quantities that there is constant drooling or dribbling from the mouth.

A burning sensation in the mid-sternal line, from mouth to

pit of stomach, is frequently complained of. Associated with this is difficulty in swallowing, and soon a distaste for food. Eructations of food and gas are very annoying. Pain in abdomen is a constant symptom in this stage. These pains may take on characteristics of various crises, as gastric, cardiac, appendiceal, ovarian, uterine, etc. Mistakes have been frequently noted here, and unnecessary surgical operations done in the belief that the pains were indicative of appendicitis or of gall-bladder trouble, or even of intestinal obstruction.

Diarrhea of more or less constant duration is one of the cardinal symptoms. Instances have been frequently recounted of a persistent diarrhea, extending over a long period, sometimes with a definite history of years' duration, intractable, persistent, stubborn, sometimes associated with blood and mucus, often not, stools offensive, mushy, dark green, and particularly apt to be frequent at night. This condition may occur early, though it is not infrequently the direct cause of death from exhaustion, occurring in the latter stages of the malady. Sometimes a patient will be progressing apparently into health, when the diarrhea will begin and speedily put an end to the hopes of the physician and to the life of the miserable patient. This diarrhea has been mistaken for sprue, or for chronic dysentery or has been diagnosed tubercular enteritis, for maybe no other reason than that the attending physician was at a loss to account for the persistence by any other theory.

In this connection it is well to mention a symptom very conspicuous in the female. Some observers have claimed that the condition of Pellagra could be diagnosed from the vaginal state before it would be suspected by any other indication. A severe vaginitis, analogous to the stomatitis, above mentioned, may have been an annoying condition for months. The vaginal mucosa takes on an angry red appearance, from which there is being poured out an offensive irritating leucorrhea that is scalding to the cutaneous surface.

The SECOND GROUP of SYMPTOMS referable to the nervous system is too complex to admit of minute detail in this short paper. One of the very earliest manifestations of this disorder is an unexplainable weariness and heaviness of the limbs; the patient usually speaks of an inability to lift the limbs, not from any paralysis of motor function, but apparently from pure muscular weariness and enervation. Quite early there may be an

exaggerated knee-jerk; this is not always present, however, for in many instances there may be an impairment of this reflex. Various manifestations of melancholia are apt to present themselves at the stage of the disease when the digestive symptoms are most prominent: monomania, homicidal mania, suicidal tendencies, various phobias, such as pyrophobia, etc., are quite common. A very peculiar phenomenon, not explained, is the sense of falling, or vertigo, of which the patient complains when standing or lying in bed. Some patients will cry out in fright, calling to the nurse that they are falling, when they are lying securely in bed. They will reach out on both sides of the bed in a frantic effort to catch themselves. In other cases there is a sense as if the walls of the room were closing in upon the patient. Mutterings and various hallucinations are common.

As stated, there is no definite time for these symptoms to manifest themselves. It must not be supposed that the nervous phenomena have a positive period in which they may be looked for in the development of the disease. It is not infrequent for the nervous phenomena to manifest themselves before almost any other symptom, and again the manias, etc., may be the very last development of the trouble.

THIRD GROUP—SKIN MANIFESTATIONS.

As stated above, it is safest, in the present state of knowledge of the disease, to reserve diagnosis until the skin lesion has manifested itself, for this is characteristic. The symptoms referable to all of the other groups are not particularly characteristic of any one disorder. There is a peculiar *vulnerability of the skin* apparent even before the characteristic discoloration. A sharp blow on the skin surface has been known to be followed by the appearance of the pellagrous rash. The vaginal secretions possess peculiarly irritating properties to the skin, and in the picture above cited of a vaginitis, there is no more characteristic evidence of pellagra than that of the dermatitis produced over the perineum, about the anal folds, by the offensive leucorrhoea, which dermatitis will extend downward onto the sacro-coccygeal region, there to merge itself into a diffuse, copper-colored area of the typical pellagrous lesion. Pressure on the skin is apt to produce the skin lesion. However, the most usual site of the appearance of the rash is on the exposed parts of the body.

It must be remembered, however, that the pellagrous skin lesion is often seen along the dorsal spine, and it cannot, there-

fore, be definitely stated that only exposed parts of the body will show the rash. Generally, while the gastro-intestinal symptoms are at their height, there will appear over the knuckles and backs of the hands, a peculiar sunburn-like rash that will gradually spread until it covers the whole dorsum of both hands up to the cuff line. Rarely is this discoloration apparent on the palmar surface. At its upper boundary there will be a sharp line of demarcation between the healthy and discolored skin, this line of demarcation being somewhat darker in pigmentation than the rest of the diffuse lesion and gradually fading into the normal skin. If the arms are bared above the elbows, in most instances there will be found about the olecranon an area of typical discoloration, due, doubtless, to the pressure of the elbows upon the bed. This area will be joined to that on the dorsal surface of the hand by a line of dark discoloration extending along the ulnar aspect.

In summing up it is well to reiterate the caution that a diagnosis must not be hurriedly made; the whole symptom complex must be kept in mind. It is rarely that one finds, in a close study of the disease, a more typical group of symptoms, and when one considers the great significance of long-continued gastro-intestinal irritation, without known cause, with a diarrhoea that is very apt to show itself at night, associated with an indescribable weariness and the various nervous phenomena above mentioned, it is not difficult to be at least suspicious of the diagnosis. When mental symptoms supervene, and later the climax is reached by the appearance of the skin lesion, the diagnosis of pellagra is inevitable.

The Atherton.

ANTERIOR GASTROJEJUNOSTOMY.

Turner (*Clinical Journal*, August 2, 1911), writing on this subject, does not regard the advantage of the posterior operation to be so great as to make it of necessity better than the anterior. The latter is easy to do and is quicker. He reports four cases, using as short a loop as possible. His reason for the anterior operation was that the stomach was so bound down as to make the posterior one difficult or impossible. The results were satisfactory, and prove that when the posterior method is not practicable the older method may be employed with a fair prospect of success.

Selected Articles

THE RECENT EPIDEMIC OF DIPHTHERIA IN THE JOHNS HOPKINS HOSPITAL AND MEDICAL SCHOOL; GENERAL PROCEDURES ADOPTED.

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During the last week in January and the first two weeks of February of this year (1911) a number of cases of diphtheria occurred in the Johns Hopkins Hospital and Medical School. On January 25, a pupil nurse with the disease was admitted to the Isolation Ward, and on February 3 a patient in the men's ward, Ward F, developed clinical symptoms of diphtheria, and a throat culture showed the Klebs-Loeffler bacillus. He was immediately isolated and no further cases appeared at that time in the ward from which he was taken. On February 9, a pupil nurse in charge of the children in Ward G, the women and children's ward, developed diphtheria and on the following day an employee in the baggage room was found with an infected throat. These cases all presented the clinical picture of a mild type of the disease and rapidly recovered. On February 11, a child in Ward G, an old burn and skin grafting case, exhibited a bloody nasal discharge. It had been fretful and ailing for some time and the attention of both doctors and nurse had been directed to its condition. When the discharge appeared it was at once examined and the diagnosis of nasal diphtheria established. This infection proved to be virulent in character, the child dying, despite the vigorous use of antitoxin. It had evidently had the disease several days before clinical symptoms were noted. No idea that the contagion would spread was then entertained, but on February 13, two more cases developed in children in the same ward, Ward G, and two days later a fourth-year student on duty as a clinical clerk in this ward was found infected with the characteristic organism. In a period of twenty-two days eight cases of the disease had thus made their appearance, five of them located in Ward G, three in children patients and two in individuals rendering assistance in the care of these patients.

This number of cases of diphtheria was by no means out of

the ordinary, either for large general hospitals of the size of the Johns Hopkins or for this Hospital itself. We have always had an occasional Klebs-Loeffler infection and shall always expect such sporadic cases. We live in a community where diphtheria is ever present, and the extension of the outside infection to the Hospital is never unexpected, nor is it usually a matter of concern. But when the Clinical Clerk on Ward G was found with the disease, and it was realized that three other cases had developed in the children on the same ward, it was suspected that the infection might have spread and a more or less systematic examination of patients, nurses and students in this ward was carried out. No cases were then brought to light, but four days later another fourth-year student in Ward G was found infected. This was on February 20, and on the following day diphtheria was discovered in three adult patients in Ward G, in three nurses in this ward, in another nurse, a room-mate of one of the infected Ward G nurses, and in a nurse in the general operating room, who had handled Ward G patients.

This more or less sudden outbreak of diphtheria in Ward G, or rather this sudden spread of the contagion, was viewed with great uneasiness by the medical internes and especially by the Resident Physician, Dr. Sladen, and by Dr. Austrian, who had been examining the cultures. The occurrence on one day of eight cases of diphtheria associated with one ward indicated a firmly seated focus of infection and a by no means remote possibility that this infection would spread in a number of directions. The very free access to the wards which our students enjoy added to the body of patients, doctors, nurses and attendants who might become infected, another fairly large and somewhat widely distributed group of individuals who could carry infection to various points. Actuated by a well justified concern, on February 21, after these eight cases of diphtheria were discovered, the Resident Medical Staff instituted a systematic examination of the hospital population. The throats of all were carefully studied for local signs of infection, and on the slightest appearance of suspicious symptoms the individuals were segregated and cultures taken. The following day three more cases of diphtheria were brought to light, an adult patient, a nurse in Ward G and a medical interne in another ward. On Thursday, February 23, seven cases were discovered, two more children in Ward G, three nurses and a member of the second-year medical class. On Friday, February 24, eleven

cases of diphtheria made their appearance, two more nurses, a patient in Ward F and eight medical students.

At this time the situation was regarded as extremely serious by all the men who were working on the wards. Cases of the disease were cropping out with great rapidity and in a number of different areas. It was evident that diphtheria had gotten a firm foothold in the institution. From January 25 to February 25 thirty-eight cases had developed. This was despite the fact that the cases were recognized early, the diagnosis established soon after the appearance of clinical symptoms, complete isolation of all the patients carried out and energetic cleaning and disinfection employed to rid the infected localities of the contagious material. In brief, all the measures which under ordinary circumstances are employed to prevent the spread of the Klebs-Loeffler bacillus had been adopted and yet the disease was steadily increasing in intensity. The occurrence on two days of eighteen cases of diphtheria was too serious a matter for both the Hospital and the Medical School not to be regarded with considerable uneasiness. It was furthermore clear that the disease was spreading in two directions, independently and simultaneously: first, in the group of persons associated with Ward G, patients, nurses and assistants, and individuals in the Nurses' Home, who had been in contact with the Ward G nurses; and, secondly, in the student-body of the Medical School. In regard to the first group of people two possibilities existed, one that a focus of diphtheria existed in Ward G, from which source it spread to the Nurses' Home, the other that a focus existed in the Nurses' Home, from which point it spread to the patients in the ward. In the second group, the medical students, cases had been discovered in all the classes and the appearance of a greater number in the first and second-year students, who do not come into the hospital, than in members of the third and fourth-year classes, who might be infected from ward cases, was a proof of the independent transmission of the disease among the students themselves. Various avenues by means of which the infection might be spreading in the student-body were suggested, the most probable channels being the Lunch Room in the basement of the Physiological Building, where about a hundred men and women from all four classes take their midday meal, and the various students' clubs and boarding houses.

At the meeting of the Advisory Board of the Medical Faculty on Friday, February 24, the many details of the situation were presented by Dr. Barker, and it was decided to close the Medical

School. A committee was appointed to take charge of the situation. This committee, known afterwards as the Diphtheria Committee, consisted of Dr. Williams, Dr. Barker and Dr. Ford. Dr. Norton was asked to become an ex-officio member as the Acting Superintendent of the Hospital. It should be mentioned that only by the active and willing co-operation of Dr. Norton with this committee was it possible to carry out the various measures which were suggested to stamp out the disease. To the Diphtheria Committee all questions relative to the epidemic in both Hospital and Medical School were referred.

On Saturday morning, February 25, Dr. Williams, the Dean of the Medical School, posted notices stating that the institution was closed temporarily. Later notices were sent to all the students urging them to remain in Baltimore, to keep in close touch with the school authorities and to avoid appearance in public places like theaters and churches. On the same morning the Diphtheria Committee held its first meeting. The various features of the epidemic were discussed at length and certain general measures were decided upon. These measures included the further examination of all the Hospital inmates, patients, doctors, nurses, orderlies, etc., the taking of routine throat cultures from all the medical students, and the cleaning and disinfection of the medical buildings. An investigation into the conditions of the many boarding houses where the students live, to bring to light any hidden foci of infection, was also considered advisable, and Dr. W. L. Moss was asked to undertake this latter work.

At this time it was deemed of great importance to get in close touch with the Department of Health of the City of Baltimore, and Dr. Moss and Dr. Ford, at the request of the committee, had a long conference with Dr. Jones, Assistant Commissioner of Health. At this conference a number of plans of work were considered. Dr. Jones suggested at once the importance of taking throat cultures from all the inmates of the students' boarding houses to determine whether the infection was spreading or likely to spread to the city. He put the resources of the Health Department at the service of Dr. Moss in his investigation and made him a temporary official of the Department. Dr. Jones expressed his great desire to co-operate with the Diphtheria Committee in any way possible, and all questions affecting the relationship of the Hospital and the city, such as the discharge of patients, were thereafter submitted to him for decision.

On Saturday, February 26, six additional cases of diphtheria developed and on the following Sunday eight more, three in members of the Faculty or their families. When the committee met on Monday fourteen cases had thus been added to the thirty-eight already reported, making a total of fifty-two. It was evident that the disease was spreading rapidly and it was therefore decided to close the Dispensary, partly in order to give it a thorough overhauling, and to admit no more patients to the Hospital except certain urgent cases who were to be warned of the danger.

By this time the various measures of cleaning and disinfection, of taking routine cultures from the throats of the Hospital and Medical School population, the complete isolation of individuals with positive throat cultures, the detention of suspects, had been put in operation. It was apparent that some of the patients were rapidly recovering and would soon be ready for discharge. A number of non-infected patients were also anxious to leave the Hospital. Dr. Jones was therefore appealed to, for a ruling in regard to the matter. He decided that the patients should be divided into three groups and treated as follows: First, all persons who had recovered from diphtheria could be discharged when two negative cultures from nose and throat separated by a forty-eight hour interval had been obtained. Secondly, all persons exposed to diphtheria and not contracting the disease could be discharged when one negative nose and throat culture had been obtained. Thirdly, all persons not exposed to the disease could leave when one negative throat culture had been secured. Acting upon these rulings on Tuesday, February 28, Dr. Norton posted notices in the Hospital and began the discharge of patients.

The cleaning and disinfection of the Medical Building was put in charge of the writer and presented a special problem which may be considered briefly. The buildings are large, divided into many rooms, devoted to all sorts of purposes, and were in active use at the time of closure. The presence of large corridors and stairways, establishing a free communication often between basement and attic seemed to render any gaseous fumigation valueless. Largely upon the advice of Dr. Jones, it was decided to disinfect with formaldehyde wherever possible, but to rely mainly upon a thorough cleansing of the floors and walls to a height of about six feet, after the buildings had been allowed to rest absolutely undisturbed for 24 to 48 hours to allow the dust to settle. Attempts which were made to disinfect some of the rooms with formaldehyde gas obtained from such preparations as briquets of

formanganate and patent candles which on burning evolve this vapor, demonstrated the uselessness of the procedure. In a few minutes after the evolution of the gas had been brought about the odor of it had disappeared from the rooms, the many openings about the doors and windows, the heating apparatus, and the ventilating shafts, permitting it to pass into other parts of the building. It was evident that some method of obtaining a continuous evolution of the gas lasting a number of hours must be hit upon if an effective disinfection of these large buildings was to be obtained. At the suggestion of Mr. Hartley, head janitor of the Anatomical Laboratory, this object was accomplished by the long-continued boiling of solutions of 40 per cent formalin in water in the proportion of about one part to three. The windows and doors of the buildings were tightly closed, all the inside doors leading from the rooms to corridors opened and saucepans containing the formalin mixture were boiled over Bunsen burners in a number of different localities. A constant evolution of the gas lasting six to eight hours was thus obtained, the atmosphere of the building being saturated with the vapor for a considerable period of time. The flames of the Bunsen burners were extinguished by turning off the main supply of gas in the basement and on the following day the buildings were opened, thoroughly aired and the work of cleaning undertaken. The floors and walls were first washed with soap and water and then wiped off with some disinfectant solution, either a solution of carbolic acid or one of corrosive sublimate. Whenever the latter substance was used it was followed by another washing with soap and water.

In buildings where the presence of animals or expensive apparatus likely to be injured by the vapor of formaldehyde prevented this disinfection of the structure as a whole, the separate rooms were sealed up and fumigated by the Parke-Davis formanganate briquets or by the Du Prey candles. These rooms were kept tightly closed for 24 hours and then the floors and walls were washed with soap and water and with disinfectants.

No bacteriological tests were made to determine the efficiency of the fumigation. The necessity for rapid work precluded any satisfactory observations, and it was realized that no method of disinfection is perfect. It was decided to carry out as vigorously as possible those methods which are recognized to be of the greatest value and to trust to a wise providence that the contagion would be destroyed. Afterwards, when more time was available, with Dr. Norton's help, a number of observations were made during the disinfection of Ward G. It was found that surface

cultures of organisms like *Bacillus typhosus*, *Bacillus coli*, *Streptococcus pyogenes*, and *Bacillus prodigiosus* were killed when exposed to the gas generated by the Parke-Davis briquets of formanganate. The organisms in the depths of the tubes remained viable however.

Special emphasis was placed upon the disinfection and cleaning of the Lunch Room in the basement of the Physiological Laboratory. From the beginning of the epidemic it was believed that it might be one of the main foci of infection among the students. Primarily it was the only place where there was a general meeting of the members of all classes. Again, certain practices in vogue there, such as cleaning the table-tops with napkins left by students who had already taken their lunch and departed, seemed to offer an abundant opportunity for the spread of any contagious material coming from the throat. This room was therefore fumigated and washed thoroughly on two occasions separated by an interval of several days, and when finally reopened certain changes were instituted in the care of the dishes and napkins.

The students were encouraged to disinfect their own rooms, and in many instances were supplied with material from a quantity of disinfectant which had been sent to the school from the Department of Health. In all the students' clubhouses and in the majority of students' boarding houses this procedure was carried out most energetically.

Certain special difficulties were met with in the work of cleaning. In the first place it was extremely hard to get labor because of the widespread fear of diphtheria which had been engendered in the minds of the various residents in the vicinity of the Hospital, partly because of the wide publicity which had been given the epidemic by the newspaper reports. In the second place it was believed that all the people working in the buildings would be exposed to infection with the Klebs-Loeffler bacillus and the problem of their proper care had to be met. Eventually, a sufficient number of active people were obtained to do the necessary work. No cultures were taken from the throats of these individuals during their time of employment. It was perfectly evident that if suspicions should arise that they stood in danger of infection under no circumstances could they be induced to remain at work. At the same time it was realized that these individuals should be carefully examined at the end of the period of cleaning and disinfection to determine whether any of them

had become infected with the diphtheria bacillus. This work in the medical buildings was completed in about a week from the time it was started. On Saturday, March 4, cultures were taken from all the work-people, the extra employes were discharged, and the control of the buildings turned over to the Dean of the school. One positive throat culture was found in a woman who had been working in the Physiological Laboratory. It was not absolutely certain that this woman became infected in this building, since we had no negative throat culture at the time she began her work there, but the presumption was in favor of this source of her contagion. This case proved to be of considerable interest and importance. The woman harbored diphtheria bacilli in her throat for a period of fully 20 days, during which time she had no clinical symptoms or signs whatever. All sorts of measures were carried out to rid her throat of the organisms, such as spraying with various disinfectants and with antitoxin itself. She received as well the regular antitoxin treatment administered subcutaneously. Eventually two negative cultures from her throat were obtained by the officials of the Health Department, and she was discharged from quarantine. This was one of the few definite cases in this epidemic where the diphtheria bacillus remained for some time in the throat of an individual without causing the appearance of clinical symptoms.

The most perplexing question which the Diphtheria Committee had to decide was in regard to the use of prophylactic or immunizing doses of diphtheria antitoxin. This measure was discussed on a number of occasions. A large number, if not all, of the doctors and nurses in contact with the disease took this treatment soon after the epidemic broke out. It was a matter of great importance, however, to determine whether this procedure should be insisted upon with all the inmates of the Nurses' Home and with the members of the Resident Staff of the Hospital. The Health Department from the first had recommended prophylactic antitoxin as the only remedy which could be relied upon to stop the spread of diphtheria among the nurses. At the same time the administration of antitoxin is certainly followed in a few individuals by the appearance of disagreeable or untoward consequences and authorities are by no means agreed as to its value in checking epidemics. Relying upon several experiences in Baltimore where diphtheria has been stamped out of a number of institutions only when prophylactic antitoxin has been administered to all the inmates, upon reports from various hospitals for the

care of contagious diseases in which this treatment is carried out as a routine measure with the children when diphtheria appears, and upon a number of publications as to the percentage of bad results which follow the use of antitoxin, the committee decided to recommend but not to insist upon this measure. Whenever antitoxin had been administered previously, wherever an authentic history of attacks of asthma could be elicited, contra-indications were recognized to the use of the remedy.

A careful record of the administrations of antitoxin was kept by Dr. Sladen and his staff. Over three hundred prophylactic doses were given, two hundred nurses receiving the treatment, forty-three students, and a small proportion of the resident staff. About seventy patients took curative doses of the remedy. Nearly all the individuals who received the antitoxin either for prophylactic purposes or to combat an existing infection with the Klebs-Loeffler bacillus developed some local signs. In most cases the reaction was limited to slight urticaria. In a few instances a pronounced œdema was noted with local tenderness and elevation of temperature in the dependent parts near the site of injection. In five cases characteristic serum disease appeared. In one of these cases, a fourth-year student, immediately following the injection of the antitoxin a typical anaphylactic shock developed dyspnoea, with great shivering, vomiting, and attacks of faintness with tendency to syncope. These symptoms lasted for a number of hours but eventually entirely disappeared. This student had received antitoxin previously and gave a history of asthmatic attacks in his youth. In the other four cases in but one or two instances had antitoxin been administered previously.

How far the prophylactic use of diphtheria antitoxin was instrumental in stopping this epidemic is not clear. A number of interesting facts were noted which indicate that its use did have a definite effect upon the spread of the disease. The only nurse in Ward G who refused antitoxin later developed diphtheria. Among the other nurses on this ward who received the treatment no cases of infection appeared. Of the six children in Ward G, all exposed to infection, four received prophylactic antitoxin. Of these four, two later showed positive cultures of the diphtheria bacillus, but had no serious symptoms. The two other children on Ward G, in whom it was not considered advisable to administer the antitoxin because of recent surgical operations, developed diphtheria later and died. Coincidentally with or immediately following the general administration of

prophylactic doses of antitoxin to the nurses in the 'Nurses' Home, the infection disappeared in this group of individuals, and it did not disappear until this measure was carried out. While thus no proof can be brought to show that this procedure was operative in controlling the infection, the majority of the men who administered the antitoxin and followed the cases of diphtheria afterwards were convinced that it had no little influence in checking the epidemic. At the same time the prophylactic use of diphtheria antitoxin is probably the one measure adopted which might not be carried out so vigorously should we have epidemics of diphtheria to deal with in the future. While in our experience no serious results developed from the use of this remedy, there is a very general sentiment against it in both doctors and nurses, and this feeling is undoubtedly justified by the observations which might have been published.

On Friday, March 3, it was apparent that the epidemic was dying out. From a case incidence of eight on the preceding Sunday, the number of cases had dropped irregularly during this week. Two cases in the nurses appeared on Monday, no cases were reported on Tuesday, three were found among the students on Wednesday, four cases developed on Thursday, one student, one nurse, one ward doctor and one orderly, and two came to light on Friday among the laundry employees. Altogether but eleven had developed in five days, and these had such a varied distribution as to indicate that they were but scattering cases at the end of a general epidemic. On Friday, therefore, Dr. Williams sent notices to the students and instructors that the school would open again to the first two years on Wednesday, March 8; to the last two years on the following day, at which time the dispensary was to be opened again to the public. Cultures were taken from all the students and instructors and only those with negative reports admitted to the school. The exercises began again on Wednesday and by the latter part of the week the routine of the Medical School had been re-established in all the classes. The infected wards of the Hospital were cleaned and fumigated, the patients who had recovered were discharged and new patients again were received for treatment.

A few cases of diphtheria did show themselves after Friday, March 3, at which time it was thought that the epidemic was over and the decision to reopen the school was reached. Thus on March 6 a child in the Maternity Ward was found with a positive nose culture, on March 7 a student developed a positive

throat culture, on March 16 another student showed the infection, and on March 19 one of the physicians in the dispensary. On March 22 the room-mate of the last-named student developed an otitis media which proved to be due to the Klebs-Loeffler bacillus. Since that time no cases have appeared either in the student-body or among the individuals living in the institution. Altogether 66 cases of diphtheria were treated in the Johns Hopkins Hospital, to which should be added 6 cases in orderlies or members of their families who for various reasons could not be treated in the Hospital but who evidently contracted the disease there, a total of 72 cases. Four deaths occurred, three in children and one in an adult, none of them, however, being uncomplicated diphtheria cases.

We shall probably never know the source of this epidemic of diphtheria. Baltimore always has cases of the disease, and at times during the winter season these cases may occur with some frequency. From these foci of infection in the city the disease frequently extends into the Hospital, but at no time previously has there been evidence of any wide invasion of the Hospital population, nor has the fear been felt that such an invasion was likely to occur. In the three and a third years from September 1, 1907, to January 1, 1911, there have been but forty-four diphtheria patients in the Hospital. These cases occurred in individuals living in widely separated parts of the city, of various ages and occupations. Occasionally several cases have developed on or about the same time among the nurses or among the medical students. Thus in May, 1908, there were 5 cases of this description. The infection died out, but during the next winter a few scattering cases appeared in the Hospital inmates. In the year 1909 there were about eighteen cases of diphtheria admitted to the Isolation Ward, of whom six were in the Hospital population and two among the medical students. In 1910 there were altogether eleven cases, of whom four were nurses or pupil nurses in the Hospital. These cases occurred at longer or shorter intervals, and while they may have developed one from another, they may equally well have been simply extensions of the disease from the city. At no time was there any difficulty in controlling these infections, and at no time was there any fear that the disease would spread in our midst. This sense of security was rudely shaken by our recent experience, and the possibility that an infection of mild form and almost self-limited may at times

assume the character of a rapidly spreading contagious disease will always be entertained here in the future.

Finally, the question arises as to whether the very drastic measures adopted to stamp out this epidemic were necessary and whether the cessation of cases was directly due to the introduction of these procedures. Such questions from their very nature cannot be answered. We can only say that at the time the measures were put in operation, diphtheria was spreading with great rapidity in the Hospital and Medical School. All the men intimately associated with the work, especially the members of the resident medical staff, were appalled at the way the cases were coming to light and it was generally believed that unless drastic measures were employed a wide-spreading and serious epidemic of diphtheria might develop in the institution. With the inauguration of the various preventive methods which were considered advisable the disease disappeared from our population, and we cannot help but believe that this disappearance stands towards our activities in the relation of effect and cause and not in the relation of a sequence of events.—*Johns Hopkins Hospital Bulletin.*

SOME CONSIDERATIONS OF ETHER ANESTHESIA.

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It is not my intention to deal in an elaborate way with anesthetics and their administration, but merely to dwell upon and emphasize certain practical points which impress me with their importance.

The busy practitioner in the city or country frequently meets with patients whose condition demands surgical anesthesia, and whether he is obliged to administer the anesthetic himself, or call upon another to perform this duty, is often a question of circumstances. He cannot be expected to have constantly at hand complicated and expensive apparatus for the induction of anesthesia by various methods, and this is not always necessary. But it is of the utmost importance that he should be familiar with the physiological action and the untoward effects of at least one anesthetic that he can use in his practice, also at least one simple and safe method that may apply to the majority of his cases.

The secret of successful anesthesia depends chiefly upon the condition of the patient, the method of administration and the care and attention of the anesthetist. The patient's condition we

are frequently obliged to take as we find it, the method of administration may rest wholly upon our conveniences and skill, but the attention and consideration of the anesthetist should never be a fluctuating element.

To some of you gentlemen it may seem as though I owe you an apology for asking you to consider many of the topics of this paper. Already many of the suggestions may have been incorporated in parts of your routine work; still I have been asked these questions many times by students while they are receiving their practical instruction in anesthesia, and also by practitioners who manifested more than a casual amount of interest in the subject.

We have not done all that should be expected of us when we have watched our patients through the condition of surgical anesthesia, but it should be our constant aim to make the induction and post-anesthetic stages as comfortable as possible.

To be brief, let us consider the questions under three different headings, all of which bear an important relation to each other, namely:

Preliminary preparations.

Technic and conduct of administration.

Post-anesthetic care.

Preliminary preparations depend upon the exigencies of the case, and we will assume that the doctor can elect his own time for administration. Patients addicted to the use of alcohol invariably do better while under ether if they have had a preliminary treatment with bromides for a week or ten days with a gradual withdrawal of alcohol. Even a few days' treatment is better than none at all. This type of patient usually taxes the skill of a trained anesthetist before the operation is completed, and I feel that to those who anesthetize only occasionally, any suggestions that will help them with this class of cases will be welcomed.

Considerable quantities of the anesthetic are employed to keep the patient quiet. It is occasionally difficult, if not impossible, to secure total muscular relaxation in patients of this class, and reflex movements during operations upon sensitive parts may obstinately persist even though dangerously large quantities of the anesthetic be administered.

The condition of the heart, lungs and kidneys should never be overlooked. With attention to these salient points before anes-

thesia you will lessen your anxiety during the patient's early convalescence.

Active purging of patients before operation is to be discouraged. Previous to abdominal operations a reasonable cleansing of the bowels the day before operation by one of the common salines (Epsom salts or Seidlitz powders) or castor oil followed by an efficient enema one or two hours before operation is sufficient.

In goitre cases with pronounced nervous symptoms and tachycardia, I believe we cannot do better than adopt the method of Crile which he refers to as "stealing upon the thyroid." It is, briefly: about five days before he expects to operate, he tells the patient he will be given the "oxygen" treatment every morning. This consists of a hypodermic injection of sterile water and inhalation of fresh air alone or with a very little nitrous oxide gas through the inhaler that will be used on the morning when true anesthesia will be induced. This treatment is not carried to the stage of unconsciousness, and lasts only about five minutes each day.

A temporary increase of the nervous symptoms takes place after these treatments, but the disturbance is less marked as the number of treatments increase. On the morning of the operation, the patient receives the treatment as usual. Morphine, gr. 1-8 or 1-6, is substituted for the daily hypodermic injection of sterile water, and at this time it is carried to the stage of surgical anesthesia with nitrous oxide, then ether. Crile is convinced that by this method he eliminates an important factor in the production of shock, namely, the anticipation of operation, and the excitement attending the induction of anesthesia.

There is a difference of opinion whether the anesthetic should be started with the patient in bed or on the operating table. Some believe there is less excitement on the part of the patients if the anesthetic is started while they are in bed, and that is the only reason in favor of this method except in cases of multiple injuries and fractures when the slightest movement causes much pain. When the anesthetic is started with the patient on the table, there is less danger of injury in transferring from bed or truck to the table, and the anesthetist and his assistant can invariably manage the patient better during the excitement stage. If the patient is only lightly anesthetized at the time the transfer to the table is made, the handling is enough of a stimulus to prolong the excitement stage and often induces vomiting. This method

has been adopted in the clinic of the Mayos, by Crile, and also in many of the hospitals in this city.

Whether we shall administer morphine alone, or in combination with atropine before the anesthetic, is a question frequently asked. Labbe and Guyon seem to have been the first to administer morphine before chloroform in surgical practice. They used it with Claude Bernard's idea, namely, that of facilitating the action of chloroform and rendering smaller quantities of the anesthetic necessary. They found by this practice the excitement stage of chloroformization was considerably lessened, and that when once anesthesia had been produced, extremely small doses of the anesthetic were needed to maintain insensibility to pain. The same reason applies when ether is used.

I have used morphine with atropine before giving ether in a large majority of cases of adults, and have been satisfied with the results. When the patient was under fifteen years of age, I have used atropine alone. Morphine, gr. 1-8 or 1-6, and atropine, gr. 1-100 or 1-120, is the usual adult dose, and atropine gr. 1-150 to gr. 1-240 for children. This should be given subcutaneously, and always at least twenty minutes before the administration of the anesthetic. Exceptions to the use of these drugs are patients with drug idiosyncrasies, and to the use of morphine in weak subjects and cerebral cases in a semi-comatose condition. Omit atropine in exophthalmic goitre with tachycardia.

The advantages of the use of these drugs are that many cases demand less anesthetic, the excitement stage is shortened or less marked, and it lessens the post-anesthetic nausea and vomiting. Tiersch employed this method in several operations about the mouth and found it possible to maintain an analgesic state in which the patient, although unable to feel pain, could aid the operator by coughing.

Technic and conduct of administration.—Before the anesthetic is started, the administrator, while explaining to the patient what is expected of him, should speak to him in an encouraging manner, thereby getting his confidence if possible. At the same time he should "size up" his patient, thereby obtaining a good mental picture of how he looks. Ask yourself the question: "Does this patient look healthy and strong, or weak and not very resistant?" I believe we all agree that patients' faces are good indicators of their physical condition. A patient obliged to submit to operation may have been under a severe mental and physical strain for

some weeks before, and his face usually shows it. His pulse may be of good quality, still his physical condition may be far from good. If you get a mental picture of the patient's face before anesthesia, you will have something for comparison from time to time. As the operation advances, any change in the patient's condition almost invariably shows in his face.

There is some difference of opinion whether ether should be administered by the semi-open method, using the Blake metal cone, or one made of a towel and pasteboard, or by the open, "drop" method. Each has its advocates. The fact to bear in mind is that the patient should be allowed to have as much air as possible with as much ether as is necessary. The "drop" method has become very popular of late years, and is very satisfactory in many cases. There is, however, a class of cases, namely, very alcoholic and extremely nervous individuals, some athletes and patients of large stature, that are almost impossible to anesthetize by this method and demand the greatest dexterity on the part of the administrator. With this class of patients I prefer to use a cone.

The principal objection raised against the "cone" method is that the patient does not get sufficient air. This objection may be removed by the proper preparation of the cone and by the frequent renewal of part of the packing, or the use of a fresh cone. When the cone is used, small amounts of ether should be used frequently rather than saturating the cone from time to time. The satisfactory use of the cone might really be called another form of the "drop" method.

Either from abnormal collapsibility of the *alæ nasi*, or from paralysis of the *dilatores narium*, in some patients during inspiration the *alæ* act as valves, being drawn in during every act of inspiration, preventing all access of air; sometimes a deviated septum or hypertrophy of the tissues over the turbinates interferes with the entrance of air, genuine asphyxia resulting from both conditions, puzzling to the anesthetizer because he cannot recognize the cause. An aural speculum in each nostril, as suggested by Nancrede, or keeping the teeth and lips slightly open by means of a gag will relieve this form of cyanosis, which is seen not to be due to the tongue falling back, because its tip rests against the front teeth; nor to the base of the tongue obstructing the pharynx, because elevation of the jaw produces no effect upon the cyanosis; and not to mucus, because the noise produced by its presence is absent, and every time the mouth is opened

the character of the respiration improves and the cyanosis diminishes.

Instead of using the aural specula in this class of cases, I have frequently used soft rubber tubes. These tubes are about the size of, or slightly smaller than, that of an ordinary fountain syringe, and two pieces six inches long. One of the ends of the tubes is cut obliquely across, and through the other ends are inserted, at right angles, medium-sized safety pins. These tubes are lubricated and introduced into the nostrils along the floor of the nose. They should be introduced slowly and stop when free breathing through the tubes is established. Sometimes it is necessary to introduce the tubes until the safety pins press against the *alæ nasi*.

Crile uses rubber tubes in a similar manner for operations about the face and mouth. His apparatus is simple and very efficacious, and consists of two soft rubber catheters, size 24 or 26 French scale, with their tips cut across obliquely. The other ends are connected with a Y-shaped hard rubber tube, such as that part of a Bowles' stethoscope. A piece of rubber tubing connects the other part of the Y-tube with a medium-sized glass tunnel.

The patient is anesthetized in the usual manner and the head of the table raised. The lubricated catheters are gently passed along the floor of the nose for about six inches, behind the base of the tongue to within three-fourths of an inch of the epiglottis. When the breathing through the tubes is perfectly free, you know they are sufficiently introduced. Sometimes it is necessary to withdraw the tubes and reinsert them before free breathing is established. A mouth-gag is then introduced, the tongue is drawn forward and the pharynx packed lightly with gauze. A small piece of loose gauze is placed in the tunnel and the ether dropped upon it. This gauze is changed from time to time during the administration.

The advantages of this method are: (1) It prevents inhalation of blood and mucus; (2) it produces an even anesthesia; and (3) the anesthetist is out of the way of the operator. I have used this method in thirty cases for removal of tongue, tonsil, superior and inferior maxillæ, and cancer of the lip with very satisfactory results.

Post-anesthetic care.—From the time of the administration of the anesthetic is discontinued until the patient has recovered consciousness, he should be closely observed, as it is during this

stage that many disturbances of respiration may arise. Too much care and gentleness cannot be exercised in the transfer of the patient from the table to the truck or bed. By placing a folded sheet under the patient while on the table and using it as a hammock, he may be transferred with the least amount of upset, thereby preventing or minimizing the post-anesthetic nausea and vomiting.

It is an excellent practice when circumstances permit, to turn the patient well upon his right side when he is put back to bed, as suggested by Hewitt, and place a pillow at his back. In this position, stertor generally ceases; the tongue gravitates to the side of the mouth; a free airway is established; mucus and saliva are not swallowed; and should vomiting occur, any vomited matter will readily find an escape without interfering with breathing. The patient's chin should not be too near the sternum as it may interfere with breathing and retard the recovery.

It is the opinion of many observers that one of the common causes of post-anesthetic nausea and vomiting is an irritation of the gastric mucous membrane by ether-laden mucus which has been swallowed. This condition may persist and become distressing despite our efforts before and during anesthesia to prevent it as far as possible. Gastric lavage is frequently tried. Some patients will wash their own stomachs without subjecting them to the use of the tube. Hewitt advocates giving the patients a tumblerful of hot water to which has been added a small teaspoonful of bicarbonate of soda. Buxton speaks highly of the addition of bicarbonate of soda to black coffee. The atropine given before anesthesia certainly helps to overcome or diminish this stomach upset. Neurotic patients are frequently relieved by the use of an enema consisting of sodium and potassium bromide, of each 15 gr., in 4 oz. of warm water.

Occasionally we meet with a case in which we have made every effort from start to finish to prevent the post-anesthetic discomfort. Some of these cases obstinately resist all treatment, but with this type of case we must not lose sight of the fact that the persistence may be due to acetonemia. This condition may be recognized by nausea and vomiting, patient in a drowsy condition, sweetish odor to breath, and the presence of acetone in the urine. Copious enemata of a saturated solution of sodium bicarbonate administered slowly, and teaspoonful doses of aromatic spirits of ammonia given frequently by the mouth may relieve the condition.

The sincere interest and co-operation of the medical profession in regard to general anesthesia during the past few years is certainly very gratifying. The added stimulus this subject should receive from our symposium today should do much toward raising it to the high place that its importance warrants.—*Boston Medical and Surgical Journal*.

Recent Progress.

THE RELATION OF THYROID AND DIET.

Reid Hunt, Washington, D. C. (*Journal A. M. A.*, September 23), refers to an hypothesis already suggested by him that certain diets have a specific effect on the activity of the thyroid gland. This was based largely on the fact that certain diets have an effect on the resistance of animals to certain poisons and, further, on the observation of the effect of the administration of iodine to animals is in part determined by the character of the diet; it was held that the latter determined the activity of the thyroid. Further experiments to test this hypothesis are reported. The method used was the same as in those formerly reported and was based on the increased resistance which mice show to acetonitril after the feeding of thyroid. It was found in the earlier work that the resistance to the poison was much greater in the case of mice fed on oatmeal or oatmeal and liver than in the case of those who had a diet of eggs, crackers and milk. These diets were then tested with mice whose thyroid glands had been removed and the results are given. Thyroidectomy had no effect in the case of the egg-fed mice but distinctly lowered the resistance of the oat-fed ones, supporting the hypothesis that the high resistance of the oat-fed mice is due in part, but only in part, to an effect of this diet on the thyroid. The experiments as a whole, two or three series of which are reported, show that the high resistance of mice to acetonitril caused by certain diets is due in part to the activity of the thyroid gland. The effect on the reproductivity of the mice was also observed and it was found that the young of the mice producing the most offspring were least resistance to the poison, and vice versa. Whether this is true with other diets has not been determined. "These experiments afford additional experimental support for the view that certain diets have specific effects on the thyroid glands of some

of the lower animals. It is probable that analogous relations hold for human beings. Although it is possible that the effects differ in different classes of animals, it would be interesting to determine if, in cases of hypothyroidism, the administration of oatmeal and liver, for example, would have a possible influence, and if withholding of them from patients with hyperthyroidism would be found advantageous. The most promising class of cases for such observations would be the mild degrees of thyroid derangement, such as those recently described by Kocher in his Nobel lecture. Trendelenburg has interpreted the results in a different manner. He fully confirmed my results that the administration of thyroid increases the resistance of mice to acetonitril; but he also found that the blood of the thyroidectomized cats protected mice against this poison. He believes that, in the absence of the thyroid, toxic substances accumulate in the blood, and that these cause the reaction; he also believes that these substances, when absorbed by the thyroid, cause the latter to give the test. Trendelenburg did not test the resistance of the thyroidectomized cats to acetonitril." Assuming the processes to be the same in mice and cats, there is a formation of protective substances in the absence of the thyroid, but these are unable to protect the animal producing them without the interaction of the thyroid gland itself, or it may be that, in his experiments, there may have been changes in the blood, making it contain protecting substances itself. There need be, he thinks, possibly no real contradiction in the interpretation of the experiments of Trendelenburg and himself.

SOME SUGGESTIONS REGARDING THE MEANS OF DETECTING ADVERSE SELECTION.

Arthur B. Wood, Canada (*Medical Record*, November 25, 1911), discusses the importance in life insurance of avoiding risks of a fraudulent nature, and presents some points to assist one in doing this. At the same time the referee should not be too severe in rejecting applicants. Plans for insuring lives that are clearly under the average should be commended, since it is just these risks that need insurance. All speculative risks should be refused. The author believes that medical selection is of value as is illustrated by the high death rate that can be demonstrated among rejected applicants. Good faith in the insured is essential. Self-selected risks are generally good ones. The natural interest in a case of insurance is that of a wife in her husband,

that of a child in its father, that of a creditor in a debtor, that of a partner in a co-partner, and that of an individual in another whose death would result in financial loss. Where the beneficiary is to pay the premium the risk should not be accepted. A creditor has a legal right to insure a debtor, but when he risks the premiums and the principal at once there is generally a reason for expecting the death of the debtor. Insurances for large amounts should be carefully looked into. Applications for repeated insurance should be carefully questioned. One should be careful of young ages at entrance, as well as of advanced ages. Adverse selection is to be feared under the cheap forms of policy. Females who are single and in business are generally good risks; married women are less so. Of occupations that of the liquor dealer is likely to have a greater mortality. Special hazard attaches to lack of intelligence. Business from outside sources is apt to be bad.

RADIOGRAPHY OF THE KIDNEYS INFLATED WITH AIR OR GAS.

Lewis Gregory Cole (*American Journal of Dermatology and Genito-urinary Diseases*, October, 1911), states that the purpose of inflating the kidneys with air or gas is to do away with the possible dangers arising from the injection of the pelvis or calices with argyrol or collargol. Injections of the pelvis increase the field of radiographic diagnosis by enabling the size and shape of the pelvis and calices to be determined, in cases of hydronephrosis, deformity, or tumor of the kidney.

While it has frequently been thought necessary to pass the catheter for injecting all the way to the kidney this is impossible to do with an obstructed or tortuous ureter. The injection of silver solutions obscures the position of a calculus in the pelvis or calices.

The advantages of inflating with air are: the catheter does not have to be inserted all the way to the kidney; air or gas surrounding a calculus accentuates its shadow; the air may be readily withdrawn after the radiograph has been made, and the sections between the calices are distinctly shown when the kidneys are inflated with air.

Where it is impossible or undesirable to insert the catheter all the way to the kidney the pelvis and calices may be inflated through the ureter by inserting the ureteral catheter only a few cm.

The air should be filtered through a wad of sterile cotton and may then be passed through a warmed alkaline solution. The catheter to be used should have an end that may be expanded so as to fill the lumen of the ureter.

A radiograph should be made before the inflation is begun. After the inflation the radiograph should be made as usual save that compression should be avoided as much as possible.

The danger from air embolism is negligible.

PSYCHANALYSIS AND CORRECTION OF CHARACTER.

E. W. Scripture, New York (*Medical Record*, October 28, 1911), states that direct correction of character is against resistance; psychanalysis has the effect of a personal discovery which impresses the mind of the subject. Methods unknown to the person himself must be used to reveal fundamental traits of character. Objectification is used by instructing the person to state all the thoughts that come into his mind about the doctor himself. The traits suggested are those of the patient himself. Dreams are effective in revealing character. The manifest content of the dream is derived from the events of the day or of recent time. Dreams are made up of realizations of wishes that have not been fulfilled in reality. The wish is an element deduced from the incidents of the dream which belong to the latent content of the dream. A whole class of dreams express fears. The latent content of dreams consists of the personal impulses of the patient. At least two fundamental impulses are present, wishing and fearing. In waking life wishes, fears, and impulses are modified by surroundings. In dreams they are not modified and are carried out freely. There are topics of which an individual does not allow himself to think because they are immodest, etc. The most important is sex. All the principal persons in a dream represent the dreamer himself. The symbolism of dreams is exactly that of daily life put into pictures. One must get a translation of the dream back into its original elements by letting the patient take any element of the dream and relate all the thoughts that it brings up. The patient is told to write out his dream and think out the events of the preceding day that brought it out. The results of this method in correction of character are remarkable. Psychoanalysis in correction of character is one of the most effective methods.

CHRONIC RELAPSING GONORRHEA AND ITS CURE.

Chronic gonorrhea assumes two forms, says C. M. Whitney, Boston (*Interstate Medical Journal*, November): the chronic continuous, and the chronic relapsing; the former is a perfectly obvious condition, the latter is most deceptive because it can exist without discharge, without shreds, or any other frank objective sign. Yet in these latter cases, with no apparent reason, the discharge returns in an acute form, perhaps years after the initial infection. For the cure of this condition, says Whitney, an accurate diagnosis is necessary. A careful history must be taken, especially as to the existence of complications with the acute attack, and a thorough physical examination, including the use of the urethroscope, is demanded. The treatment must be varied to meet the various conditions presenting themselves. The difficulty comes in saying when the disease is cured. Only after persistent and repeated examinations, by injections of silver nitrate, the use of the Kollmann dilator, sounds, alcohol, massage, and culture can we assure the patient that he is well.

TREATMENT OF AFFECTIONS OF THE MAMMARY GLANDS DURING LACTATION.

Dr. A. Schiller (*Wein. klin. Wochensch.*, No. 26, 1911), considers mastitis in nursing women as almost always due to stasis, caused by insufficient evacuation of the glands. The infection of the stagnant secretion is due to bacteria which under normal conditions vegetate in the lacteal ducts without giving rise to any mischief. If infection, as is commonly assumed, resulted from fissures we would more frequently observe cutaneous inflammations, plegmons or erysipelas of the integument of the breast. Although mastitis occurs quite often in breasts with fissured nipples, this does not, in Schiller's opinion, contradict his own views as to its origin. As regards treatment, he is especially impressed with the value of Bier's stasis hyperemia, which gives a prompt cure in the early stages and prevents suppuration. If pus has formed, nursing should be continued on the healthy as well as the affected side if the abscess is so situated that the nipple need not be bandaged. Large incisions and drainage are preferable to punctures and hyperemia. As soon as possible after operation the child should be allowed to nurse on the affected side. As a rule, normal lactation is restored within a few weeks. With reference to the treatment of fissures at the nipples, Schiller

recommends a naphthalan ointment, consisting of boric acid 5.0, zinc oxid 10.0, naphthalan and lanolin, of each 25.0. Before every nursing the nipple should be cleansed with oil and cotton, some milk expressed, and the child then placed to the breast. After nursing is completed the salve should again be applied. As according to Schiller's plan nursing is allowed at intervals of four hours, one breast being given on each occasion, sufficient time is allowed for cicatrization in the affected breast. Even if the fissures are extremely painful anesthetic ointments are to be avoided, because they delay healing.

THE DIAGNOSIS OF KIDNEY AND URETERAL CALCULI.

Daniel N. Eisendrath (*The Albany Medical Annals*, October, 1911). In considering the means of diagnosis at present available no pathognomonic symptom is to be found. The clinical history and examinations of the urine with the study of the radiographs of the kidney region are always necessary. After a consideration in brief of the various symptoms the point of the paper settles upon a discussion of the value of radiographs. A positive skiagraph taken by an experienced worker in this field presents the only absolute test of the presence of a renal or ureteral calculus. To be perfect a skiagraph must show the last two ribs, the transverse processes of the last dorsal and all of the lumbar vertebra and the outline of the psoas muscle.

With proper technic Eisendrath believes that shadows of calculi may be obtained ninety-nine out of every hundred cases if stones are present.

VACCINES IN PELVIC INFECTIONS.

J. O. Polak, Brooklyn (*Journal A. M. A.*, November 25), reports on the class of cases which have during the past three years been benefited by vaccine treatment in pelvic infections at the Long Island College Hospital. In his clinics he has applied the injection of bacterial vaccine in every septic case, irrespective of the time at which it is seen. While it does not supplant other measures, he finds it has a place as an adjunct to the established methods. It assists nature in its fight against the germ. The mixed vaccines of reliable laboratories have given better results than when a single variety was used. The autogenous vaccines of a single strain, he thinks, are more or less attenuated in their

strength and more easily resisted by the hostile organisms. One point which has been noted in all his experience is the betterment of the general condition of the patient, even before the temperature has been affected. It is their custom to examine the blood four to six hours before vaccination and then begin with comparatively small doses—25,000,000 to 100,000,000—and eight hours later re-examine the blood to see whether the dose given has been enough to change the leukocyte count. If not, the injections are repeated on the next day in larger doses. If, on the other hand, there has been a marked rise in the number of leukocytes or any change in the polynuclear percentage, they wait for the beginning of the negative phase before repeating the injection, and when it is repeated the dose is doubled or trebled. This suggestion has been found of greatest value in streptococcal infections. In mixed infections or in colon bacillus infections they have been in the habit of giving an initial dose of 200,000,000 to 250,000,000, as a hyperbacteremia, due to the patient's incompetence to produce his own antibodies, is less liable to occur when the infecting organisms are of low or of mixed varieties. Details are given of the use and effects of vaccines in different forms of pelvic disorder, and also in two cases of parenchymatous mastitis. Summing up their experience, they say that in thrombophlebitis, in colon bacillic and mixed pyelitis, and as an adjunct to incision in mastitis, vaccines have proved their value beyond question.

RAPID DISINFECTION OF THE OPERATIVE FIELD.

Drs. König and Hoffmann (*Ztbl. f. Chir.*, No. 24, 1911), employ a 5 per cent solution of thymol in alcohol. It is claimed that this is at least equivalent, if not superior, in disinfectant power to tincture of iodine. Besides, there is no discoloration of the skin, desquamation or eczema. The method is also said to be much cheaper.

TUBERCULOUS TONSILS.

E. C. Sewall, San Francisco (*Journal A. M. A.*, September 9), says that while the tuberculous infection of the glands of the neck from the tonsils has been fairly well established it is not so stated in many of our text-books and best reference works. He gives the results of the examinations of 772 pairs of tonsils in the pathologic laboratory of the Cooper Medical College by Professor Ophuls and his assistants. The method was to harden the tonsils

by twelve hours in Orth's fluid, then make a few frozen sections from the middle of the tonsil, and then, if it seemed advisable, to follow up by two or more sections from different axes. The diagnosis was made by finding typical tubercles. He criticises the demands made by authorities in regard to the diagnosis of tonsillar tuberculosis and says that, as regards the greater value of the inoculation experiments, he considers them of less value than when performed on other tissues because we cannot free the tonsil from all tubercle bacilli which may be lurking in the crypts, by washing or otherwise. The work has been somewhat subject to error on account of the few sections made, but tuberculosis was reported in thirty cases. Twenty cases thoroughly examined by Dr. Downing, one of the assistants, in two thousand sections altogether, found one tuberculous tonsil that had been overlooked in the 772 pairs examined, and the actual percentage in the whole was 6.2. A hundred and sixty of the patients operated on were followed up. Sixty-eight of these had enlarged glands which have permanently subsided in fifty-seven cases. Ninety-two had no enlarged glands. In six the subsidence was only temporary. Two which were enlarged before operation did not subside and three were slightly enlarged and are so still. Practically all the glands giving trouble have been associated with tuberculous tonsils, or were tuberculous at the time of the removal of the tonsils. The removal of the tonsils worked in a beneficial manner. Sewall believes that tubercle bacilli can travel to the tuberculous glands oftener than tuberculous tonsils. The most altogether significant point brought out by the paper is, he thinks, that out of the one hundred and sixty cases reported, "though there were sixty-eight cases with enlarged glands, fifty-seven of which went down, there was not a single case in which there was enlargement of the cervical glands subsequent to the removal of the tonsils, except in those few (eleven) cases in which the glands were already enlarged at the time of the tonsillectomy."

END RESULTS WHEN HYSTERECTOMY HAS BEEN DONE AND AN OVARY LEFT.

Dr. J. O. Polak (Surg., Gyn. and Obst., July, 1911), from his study of this subject, concludes: First, that the technique of the operation and the general health of the patient have much to do with the end results. Second, that a conserved ovary, if unhealthy, will leave the patient in a worse state mentally, ner-

vously, and physically, than if a total extirpation had been made. Third, that when the woman is at the age at which the menopause should occur, or when she is past the menopause, a total ablation gives the best results. Fourth, that the nervous phenomena are more marked when the patient is operated on when she is in comparatively good health, with a high preoperative blood pressure, than when the blood picture shows anemia or toxemia. Fifth, that the symptoms of the operative menopause are less after extirpation for pelvic inflammation, than when the ablation is done for fibromyomata; this is probably due to the associated vessel changes which we find in fibrosis. And finally, that when one or both healthy ovaries can be conserved it should be done; the younger the patient the more necessary is conservation.

BACILLUS COLI INFECTION OF THE URINARY TRACT.

Reginald M. Rawls, New York (Medical Record, October 7, 1911), states that in a certain proportion of healthy adults the *Bacillus coli* is taken up by the lymphatics and blood-vessels of the intestines and carried to the kidneys. The number and virulence of these germs depend on the amount of intestinal disturbance and the strain of bacilli. The greatest predisposing causes of *Bacillus coli* infection of the kidney are interference with the flow of the urine, back pressure, and a lack of free secretion. The early symptoms are not characteristic and may be mistaken for those of a mild cystitis, although the real seat of infection is higher up in the urinary tract and of more serious pathological import. The symptoms are those of a typical malarial seizure; chills with a continued fever, pain and tenderness referred to the kidney and bladder, and abdominal distension. There may be uncontrollable vomiting. An ordinary urinary examination is not sufficient to detect the bacilli, a bacteriological examination being necessary. These symptoms stimulate several other general conditions. There is a tendency to spontaneous recovery and the prognosis is good. Treatment consists of rest in bed, with an unirritating diet, free catharsis, alkalis for the urine, and the use of autogenous vaccines and sera.

SURGICAL TREATMENT OF AMEBIASIS.

Dr. W. Seaman (N. Orl. Med. and Surg. Jour., Aug., 1911), states that chronic dysentery of the amebic type is a malady of

a serious nature, with far-reaching consequences. The pain, the discomfort, the disability, and invalidism it produces are second to no other tropical affection. With its frequent sequela, abscess of the liver, it is one of the greatest menaces to the life of its victim. Medical treatment and intestinal lavage *per vis naturales* are often unproductive of benefit. The treatment by surgical operation (appendicostomy, cecostomy) is simple, free from danger and not beyond the skill of a surgeon of reasonable ability. It should, therefore, be maturely considered whenever a fair trial of other procedures has led to no improvement of the patient's condition. Such a trial should not be persisted in until the patient's exhausted state precludes the possibility of his enduring with safety the surgical procedure.

SURGICAL TREATMENT OF EXOPHTHALMIC GOITER.

Dr M. B. Tinker (Buf. Med. Jour., June, 1911), urges that special attention be devoted to examination of the heart in determining the extent of the operation. In many cases it will be found greatly dilated and may be so weakened as to make immediate intervention inadvisable. Even in young persons there is often thickening of the vessels. A careful blood examination should also be made. In operating upon desperate cases the operation may be divided into a number of stages, such as ligation of one artery on the least affected side of the gland, then ligation of the artery on the side of greatest enlargement, further treatment depending upon the amount of improvement resulting. Sometimes the gland was removed at once; sometimes it was simply exposed and the wound packed with gauze, followed later by thyroidectomy, and still later by suture of the wound. In all cases the importance of prolonged rest was enjoined. In the less desperate cases it would be safe to predict 99 per cent of cures. The author has now performed considerably over 100 consecutive operations without loss of life, taking the desperate with the relatively simple cases.

RENAL TUBERCULOSIS.

Professor Barth (*Deut. med. Wochensch.*, No. 21, 1911), has investigated the end results in 37 of 40 cases of renal tuberculosis treated by nephrectomy. Of these 12 were cured and 12 improved or still under treatment, while 13 died. The period of observation of cases termed cured ranged from one and one-third

to nineteen years. A comparison of these results with those obtained in about the same number of cases not subjected to operation shows that the prognosis in the latter was far less favorable. From his studies Barth draws the following conclusions: So long as the disease is confined to one kidney and its ureter nephrectomy affords very favorable prospects of a permanent cure. If the bladder is already affected, a complete and lasting cure of the tuberculous process can be expected only in a fraction of the cases, approximately one-fourth. About the same number succumb in the first year to tuberculosis, while in the others a more prolonged improvement can be anticipated. In five of the author's cases of renal and vesical tuberculosis treated by operation improvement persisted for $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, and 9 years, while five others died after 2, $3\frac{1}{2}$, 5, and $9\frac{1}{2}$ years of the renal disease or other tuberculous involvement. Even after a complete cure has resulted in tuberculosis of the bladder, various disorders are apt to persist, such as frequent urination, especially at night, and for this reason every case of recognized renal tuberculosis should be nephrectomized, if possible, before the bladder has become involved.

THE AVOIDANCE OF PNEUMONIA SEQUELÆ.

The best means of avoiding pneumonia sequelæ lies in the administration of truly strengthening products, of which Cord. Ext. Ol. Morrhuæ Comp. (Hagee) is a splendid example. Its employment insures a richer blood stream, charging the tissues with reconstructive elements that are lacking as a result of the serious inroads made by the primary disease. With this enhancement of bodily vigor, the index of resistance becomes higher and sequelæ are successfully combated.

Cord. Ext. Ol. Morrhuæ Comp. (Hagee) may be profitably employed as a routine reconstructive after pneumonia, there being no more definite indications for its use than in the convalescence following acute lung and bronchial disorders.

The removal of a wedge of skin at the side of an ingrown nail, as in Cotting's operation, is rarely necessary and usually objectionable. Granulations disappear quickly when the nail segment is withdrawn; if they are exuberant they may be snipped or burned off.

PRACTICAL GLEANINGS.

Uterine curettage has its chief indications in incomplete abortion, metrorrhagia as from submucous fibroids, inoperable carcinoma, etc. Its indiscriminate employment in chronic endometritis is to be condemned.

A severe sore feeling in the throat is frequently complained of by nervous individuals. Close inspection will show numerous fine white spots surrounded by a red areola-herpes.

Functional uterine disorders are so frequently a factor in acne that an inquiry into this organ's function should be a routine practice.

Tuberculosis of the bones develops in the epiphyses or the joint synovia. An inflammatory lesion in the shaft of a long bone is never tuberculous.

The X-ray is invaluable in the diagnosis of bone cortex and periosteal disease. In bone medulla infections it is of little service.

A sexually unproductive man may become otherwise as a consequence of the dilatation of a tight urethral stricture.

The healing of a mastoid wound is often hastened by fewer dressings and allowing nature to do her part in the reparative process.

In treating gonorrheal complications or sequelae by means of vaccines, bear in mind that, as a rule, autogenous vaccines are of much more value than stock vaccines.

Scrutinize carefully every "fistula" near the anus; a skin-lined sinus in the median line, in front of or behind the anus is **congenital** and usually leads to a small dermoid.

ACKNOWLEDGMENTS.

THE PRACTITIONER'S VISITING LIST for 1912. An invaluable pocket-sized book containing memoranda and data important for every physician, and ruled blanks for recording every detail of practice. Price by mail, postpaid to any address, \$1.25, Thumb-letter index, 25 cents extra. Lea & Febiger, publishers, Philadelphia and New York.

HISTORY OF THE MOVEMENT FOR THE STATE REGISTRATION OF NURSES; By Eugene Underhill, M. D., Philadelphia, Pa. Reprint.

THE TREATMENT OF PULMONARY TUBERCULOSIS BASED ON THE ASSUMPTION THAT THE DIETETIC CAUSE OF THE DISEASE IS LIME STARVATION. Second Report of Results; By John F. Russell, M. D., New York. Reprint.

THE CAMPAIGN AGAINST CANCER; EDUCATIONAL, EXPERIMENTAL AND CLINICAL.; By William Seaman Bainbridge, A. M., Sc. D., M. D., New York. Reprint.

ANTITYPHOID VACCINATION; EXTRACTS from the Report of the Commission appointed by the Academy of Medicine of Paris; Translation by Joseph W. Schereschewsky. Washington Government Printing Office, 1911.

THE BULLETIN OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION; By George H. Kress, M. D., Los Angeles.

MORTALITY STATISTICS OF CERTAIN CITIES FOR 1910. Department of Commerce and Labor. Bureau of the Census, Washington.

VITAL STATISTICS FOR 1910. Department of Commerce and Labor. Bureau of the Census. Washington.

NEWS ITEMS.

The Floyd County Medical Society, Indiana, which includes in its membership practically all of the physicians in Floyd county, held its annual meeting December 1, at The Tavern in New Albany. Dr. C. C. Funk, of New Albany, is president of the society. During the evening session Dr. E. P. Easley read a paper on "Commercialism in Medicine," and Mr. A. W. Bruner, pure food inspector for Southern Indiana, on the "Pure Food Law."

The Daviess County Medical Society met at Owensboro, Ky., December 19, at the City Hall. A most interesting and scientific program was presented and thoroughly enjoyed.

At the annual meeting of the Louisville Clinical Society held at the Tavern Club November 28, Dr. J. M. Morris was elected president for the ensuing year; Dr. H. J. Farback, secretary, and Dr. A. D. Willmoth, treasurer.

At a recent meeting of the State Board of Health, Prof. E. H. Mark, formerly superintendent of the Louisville Public Schools, was appointed State sanitary engineer and chemist. It is expected that Prof. Mark will enter on his duties about January 1, 1912.

The report from the committee appointed at the last meeting of the State Board of Health, to inspect the equipment and teaching methods in the Medical Department of the University of Louisville, reported that they found everything in excellent condition.

Dr. Ezra Reed Larned, of Detroit, Mich., addressed the members of the Jefferson County Medical Society at the society's meeting place in the Atherton Building, Thursday evening, November 9. The subject of the lecture was "Tuberculosis."

Dr. W. L. Heizer, of Bowling Green, State Superintendent of Vital Statistics, addressed the Jefferson County Teachers' Institute at the Courthouse, on the subject of "Sanitation in the School Room."

Dr. Vernon Robins, of Louisville, spoke before the Broadway Social Center last week, on "Louisville's Garbage."

Dr. Thomas James, of Louisville, was injured when his automobile in which he was driving became unmanageable and hurled the doctor through a plate glass window.

Dr. Alex Griswold, of Louisville, has returned after a few weeks' stay in New York City.

Dr. Louis Frank, of Louisville, returned from a short hunting trip in Spencer county.

Dr. Benjamin D. Choate, of Louisville, has returned from a two weeks' trip in the South.

Dr. Benjamin Bayless, of Louisville, who is spending some time in Vienna, will go to Berlin the first of February for six months' stay, after which he will go to Edinburgh.

Dr. Frank Simpson, of Louisville, has returned from a short hunting trip.

Dr. Thomas G. Dunlap, of Atlantic City, is in Louisville visiting relatives.

Dr. Wm. C. McCarty, of Rochester, Minn., is in Louisville as the guest of his parents.

Dr. Thompson Sweeney, of New York, has returned home after a short visit in Louisville.

Dr. Clinton W. Kelly, of Louisville, has returned from a short visit to New York.

Dr. A. W. Nickell, of Louisville, has returned from Grafton, W. Va., where he had gone to convalesce from an operation.

Dr. R. Peabody, of Louisville, has returned after spending some time in New York.

Dr. Clinton Kelly, Jr., who has been in Vienna for the past eleven months, has arrived home to spend the rest of the year with his parents.

MARRIAGES.

Charles K. Beck, M. D., to Miss Eugenia Carson, both of Louisville, recently.

George L. Brooks, M. D., to Miss Ruth Tucker, both of Winchester, Ky., November 29.

Benjamin Duke Choate, M. D., to Miss Alleen P. Moran, both of Louisville, November 7.

J. C. Freeland, M. D., to Miss Willie Blanche Ogilvie, at Paducah, Ky., November 17.

DEATHS.

Walter Wyman, M. D., of Washington, at the Providence Hospital, Washington, November 21, aged 63.

John H. Hollister, M. D., of Chicago, at Redlands, Cal., November 13, aged 87.

James E. Venter, M. D., Whitesburg, Ky., at his home, November 24, of typhoid fever, aged 35.

Benjamin J. Shipley, M. D., Oil City, at his home, November 14, aged 69.

In the very beginning of a carbuncle, the injection of a solution of carbolic acid, 1 to 30, around the edges of the infected area will practically always limit extension.

To syphilis may be attributed many cardiac lesions. Acute myocarditis frequently is due to this disease. Gummatous deposits in the heart substance will occasion much distress. These facts point to the need for inquiring closely into a heart subject's history.

CALENDAR.

JEFFERSON COUNTY MEDICAL SOCIETY; meets in the "Ather-ton," December 4, 11, 18, 27.

DR. V. E. SIMPSON President
 DR. A. L. PARSONS Vice Presidents
 DR. W. B. GOSSETT Treasurer
 DR. H. N. LEAVELL Secretary
 DR. DUNNING S. WILSON,

LOUISVILLE CLINICAL SOCIETY; meets at the Galt House, December 12 and 26.

DR. J. M. MORRIS President
 DR. G. B. JENKINS Vice-President
 DR. ARGUS D. WILLMOTH Treasurer
 DR. H. J. FARBACH Secretary

LOUISVILLE SOCIETY OF MEDICINE; meets at the Tavern Club, December 7.

DR. EDW. B. RICHEY President
 DR. E. L. HENDERSON Vice-President
 DR. RICHARD T. YOE Treasurer
 DR. W. O. GREEN Secretary

LOUISVILLE SOCIETY OF PHYSICIANS AND SURGEONS; meets at the Tavern Club, December 21.

DR. C. G. HOFFMAN President
 DR. VERNON ROBINS Vice-President
 DR. CHAS. W. HIBBITT Treasurer
 DR. A. C. L. PERCEPUL Secretary

MEDICO-CHIRURGICAL SOCIETY; meets at the Tavern Club, December 1 and 15.

DR. J. GARLAND SHERRILL President
 DR. J. ROWAN MORRISON Vice-President
 DR. FRANK C. SIMPSON Secretary and Treasurer

WEST END MEDICAL SOCIETY; meets at the Galt House, December 12.

DR. I. A. ARNOLD President
 DR. H. L. READ Vice-President
 DR. JOHN K. FREEMAN Secretary and Treasurer

CLIFTON MEDICAL SOCIETY; meets First Thursday in each month.

DR. J. M. MORRIS President
 DR. E. T. GRASSER Vice President
 DR. R. E. WILHOYTE Secretary and Treasurer

AMERICAN MEDICAL ASSOCIATION; meets in Atlantic City, 1912.

KENTUCKY STATE MEDICAL ASSOCIATION; meets in Louisville, Ky., October, 1912.

KENTUCKY STATE HOMEOPATHIC SOCIETY; meets in Lexington, Ky., May, 1912.

MULDRAUGH HILL MEDICAL SOCIETY; meets in Elizabethtown, Ky., December 14, 1911.

KENTUCKY MIDLAND MEDICAL SOCIETY; meets in Paris, Ky., January 2, 1912.

SOUTHWESTERN MEDICAL ASSOCIATION; meets in Paducah, Ky., Second Tuesday in May, 1912.

AMERICAN PROCTOLOGIC SOCIETY; meets in Atlantic City, N. J., 1912. (Date later.)

KENTUCKY STATE ASSOCIATION OF RAILWAY SURGEONS; meets in Lexington, Ky., May 8, 9 and 10, 1912.

KENTUCKY ECLECTIC MEDICAL ASSOCIATION; meets in Louisville, May, 1912.

NATIONAL ECLECTIC MEDICAL ASSOCIATION; meets in Washington, D. C., June 18-21, 1912.

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